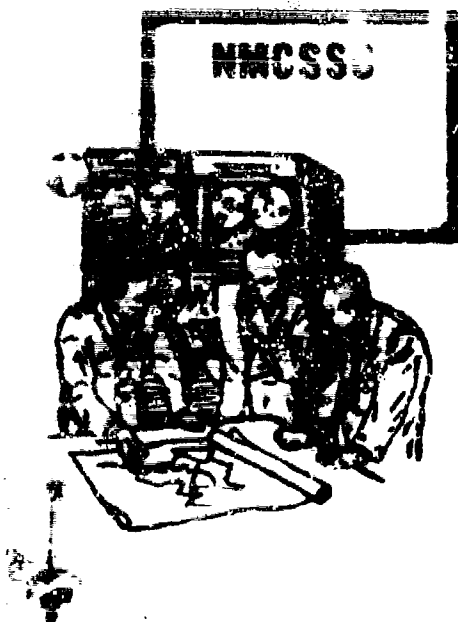


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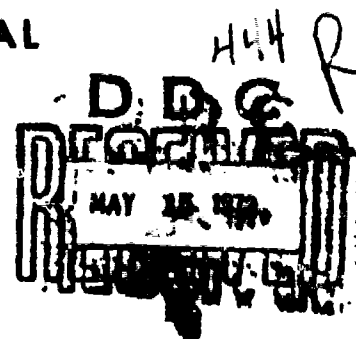
COMPUTER SYSTEM MANUAL
CSM PSM 9A-67
VOLUME II, PART D
29 FEBRUARY 1972

THE NMCSSC QUICK-REACTING GENERAL WAR GAMING SYSTEM (QUICK)

PLAN GENERATION SUBSYSTEM

PROGRAMMING SPECIFICATIONS MANUAL

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INFORMATION SERVICE
Springfield Va 22151



Security Classification		
DOCUMENT CONTROL DATA - R & D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1. ORIGINATING ACTIVITY (Corporate activity) National Military Command System Support Center (NMCSSC) Defense Communications Agency (DCA) The Pentagon Washington, DC 20301		2. REPORT SECURITY CLASSIFICATION 7b. GROUP
3. REPORT TITLE The NMCSSC Quick-Reacting General War Gaming System (QUICK) Programming Specifications Manual, Volume II, Plan Generation Subsystem		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) N/A		
5. AUTHOR(S) (First name, middle initial, last name) NMCSSC: Robert R. Hardiman Lambda Corp: Paul D. Flanagan Yvonne Mapily Patricia M. Parish Donald F. Webb Jack A. Sarscen		
6. REPORT DATE 29 February 1972	7a. TOTAL NO. OF PAGES 1858	7b. NO. OF PAGES 4
8a. CONTRACT OR GRANT NO. DCA 100-70-C-0065	9a. ORIGINATOR'S REPORT NUMBER(S) NMCSSC COMPUTER SYSTEM MANUAL CSM PSM 9A-67	
8b. PROJECT NO. NMCSSC Project 631	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) None	
10. DISTRIBUTION STATEMENT This document is approved for public release; its distribution is unlimited.		
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY National Military Command System Support Center/Defense Communications Agency The Pentagon, Washington, DC 20301
13. ABSTRACT <p>This is one of three volumes describing computer programs of the QUICK-Reacting General War Gaming System (QUICK). These volumes complement other NMCSSC Computer System Manuals on QUICK by discussing the programs from a computer programming point of view. This volume, in six parts, concentrates on the Plan Generation Subsystem of QUICK. Other volumes are available for the Input Subsystem and Simulation Subsystem. Collectively, these volumes provide a good basis for maintenance activity on the QUICK System.</p> <p>Based upon a suitable data base, and user control parameters, QUICK will generate individual bomber and missile plans suitable for war gaming. The generated plans are of a form suitable for independent review and revision. Subsequently, execution of the planned events can be simulated. Various statistical summaries can be produced to reflect the results of the war game. A variety of force postures and strategies can be accommodated.</p> <p>QUICK is documented extensively in a set of Computer System Manuals (series 9-67) published by the National Military Command System Support Center (NMCSSC), Defense Communications Agency (DCA), The Pentagon, Washington, DC 20301.</p>		

DD FORM 1473

REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE

1851

Security Classification

NATIONAL MILITARY COMMAND SYSTEM SUPPORT CENTER

Computer System Manual Number CSM PSM 9A-67

29 February 1972

THE NMCSSC QUICK-REACTING GENERAL WAR GAMING SYSTEM (QUICK)

Programming Specifications Manual

Volume II - Plan Generation Subsystem

Part D

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ACKNOWLEDGMENT

This document was prepared under the direction of the Chief for Development and Analysis, NMCSSC, in response to a requirement of the Studies, Analysis and Gaming Agency (SAGA), Organization of the Joint Chiefs of Staff. Technical support was provided by Lambda Corporation under Contract Number DCA 100-70-C-0065.

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ABSTRACT

The computerized Quick-Reacting General War Gaming System (QUICK) will accept input data, automatically generate global strategic nuclear war plans, simulate the planned events, and provide statistical output summaries. QUICK has been programmed in FORTRAN for use on the NMCSSC CDC 3800 computer system.

The QUICK Programming Specifications Manual (PSM) consists of three volumes: Volume I, Data Input Subsystem; Volume II, Plan Generation Subsystem; Volume III, Simulation and Data Output Subsystems. The Programming Specifications Manual complements the other QUICK Computer System Manuals to facilitate maintenance of the war gaming system. This volume, Volume II, provides the programmer/analyst with a technical description of the purpose, functions, general procedures, and programming techniques applicable to the programs of the Plan Generation Subsystem. This volume is in six parts: Parts A and B provide a description of the programs which make up the subsystem; Part C through F contain the associated program listings. Companion documents are:

1. GENERAL DESCRIPTION
Computer System Manual CSM GD 9A-67
A nontechnical description for senior management personnel
2. ANALYTICAL MANUAL
Computer System Manual CSM AM 9A-67 (three volumes)
Provides a description of the system methodology for the nonprogrammer analysts
3. USER'S MANUAL
Computer System Manual CSM UM 9-67
Provides detailed instructions for applications of the system
4. OPERATOR'S MANUAL
Computer System Manual CSM OM 9A-67
Provides instructions and procedures for the computer operators

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PROGRAM ALOC
  CSUBR      7JUN71 *****
  C          ALOC          *****
  C          CONTROL PROGRAM FOR PLAN GENERATOR
  CUSE       1JUN71 *****
  C          WPNGRP          *****
  C          USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCW, RESVAL, DEFALOC
  C          STALL
  C
  C          COMMON/MPNGRP/MPNPS(200),MLAT(200),MLONG(200),
  C          1IMEG(200),ITYPE(200),IALERT(200),SBL(200),IREFUEL(200),YIELD(200),
  C          2REFTIME(200),EXPASH(200),MGRGUP
  C          EQUIVALENCE(IREFUEL,IPAY)
  C          DIMENSION IPAY(200)
  C          DIMENSION IOTHER(200)
  C          EQUIVALENCE(IOTHER,IALERT)
  C          EQUIVALENCE (MG, MGROUP)
  C          WPNGRP *****
  C          WPNGTYPE 1JUN71 *****
  C          USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCW, RESVAL, DEFALOC
  C
  C          COMMON/MPNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTOLY(80)
  C          1NALRTOLY(80),RANGEDEC(80),ICLASS(80),RANGERE(80),REL(80)
  C          2IRECHODE(80),IRENMCUE(80)
  C          TYPE REAL NALRTOLY
  C          WPNTYPE *****
  C          WPNREG 1JUN71 *****
  C          USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCW, RESVAL, DEFALOC
  C
  C          COMMON/MPNREG/CCREL(20)
  C          DIMENSION CC(20)
  C          EQUIVALENCE (CCREL(1),CC(1))
  C          WPNREG *****
  C          REF 1JUN71 *****
  C          COMMON /REF/ RFLAT(20), RFLONG(20)
  C          REF *****
  C          PAYLOAD 1JUN71 *****
  C          USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCW, RESVAL, DEFALOC
  C
  C          COMMON/PAYLOAD/NCBCHB1(40),IMHD1(40),NCBCHB2(40),IMHD2(40)
  C          1,NASH(40),IASH(40),NCH(40),NDECCTS(40),NADECCTS(40),IMRV(40)
  C          EQUIVALENCE (MP,MPAYLOAD),(NCM(1),XDEG (1)),
  C          P(NDECCTS(1),NDEC(1)),(NADECCTS(1),
  C          SNADEC(1)),(NCBCHB1(1),IMHD(1))
  C          DIMENSION XDEG(40),NTUEC(40),NADEC(40),IMHD(40)
  C          PAYLOAD *****
  C          TAPES 1JUN71 *****
  C          COMMON/FILES/TGFILE(2),BASFILE(2),MSLTIME(2),ALOCSTAR(2),
  C          1TPALOC(2),ALOCGRP(2),STRKFL(2),EVENTAPE, PLANTAPE
  C
  C          TYPE INTEGER TGFILE, BASFILE, ALOCSTAR, TMPALOC,
  C          1ALOCGRP, STRKFL, EVENTAPE, PLANTAPE, ALOC2
  C
  C          COMMON/FILABEL/ INIDENT, INRUNNG, INDATE, INFORM,
  C          1INSECR, INTIME, INLGTH, INCOMM(5)
  C
  C          COMMON/PTYP/LABEL/ MYFORMT, MYSECR, MYLGTH, MYCOMM(5)
  C          COMMON/ITP/ITP

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COMMON/MIIDENT/ MIIDENT
COMMON/ACPRINT/ ACPRINT
COMMON/TWCROD/ITWCROD
EQUIVALENCE (ITWCROD, ITWCROD)

COMMON/LOCFIL/MPNTGT,ALCCT1,ITPMHSL
C
C
C TYPE INTEGER MPNTGT, ALCCT1
C
C DATA (ALCCT1 = -3) : (ITPMHSL = 1)
C
C EQUIVALENCE (ALCCT2, ALCCTAR(1))
C
C TAPES *****
C MASTER IJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTCON,
C RESVAL, AND DEFALOC
C
COMMON/MASTER/INDATE,IDENTNO,LSIDE,NRTPT,NCORR,NOPEN,NRECOVER
1,NREF,NENDRY,NREG,NTYPE,NGROUP,NTOTBASE,MPATLOAU,MASHTYPE,NMMDTYPE
2,NTANKBAS,NCOMPLEX,NCLASS,NALERT,NTGTS,NCORRTYPE,NCNTRY
EQUIVALENCE(INGROUP,NG2)(NALERT,NG2)
C MASTER *****
C IFTPRNT IJUNT1 *****
C USED BY ALLOCATE AND PRINTCON
C
COMMON/ IFTPRNT/IFTPRNT(10)
C IFTPRNT *****
C DATA ((IFTPRNT(1),1),1,10)=10(0))
C
C USE NUMB2 IJUNT1 *****
C USED BY ALLOCATE, MULCON, MAD, AND PRINTCON
C
COMMON/222/
1 WTPAC(3),WTRATE(3),WTSUM(3),JATTRIB(6,200),RUNSUM(310,3)
2 ALERREST(310,3),LA(310),MXATTRIB
C
C TYPE REAL LA *****
C NUMB2 *****
COMMON 222 WAS FORMERLY MULCONP
C USED BY MULCON, MAD, AND PRINTALL
C
C USE CTRYCD IJUNT1 *****
C
COMMON/CTRYCD/CTRYCD(150)
C
C TYPE INTEGER CTRYCD
C
C CTRYCD *****
C
C MACHINE IJUNT1 *****
C
COMMON /MACHINE/ IREAD, IWRIT, ICOMM, IPUNCH
C
C MACHINE *****
C
C CHARCHAR IJUNT1 *****

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COMMON /CORCHAR/ PCLAT(30), PCLONG(30), PCZONE(30), MPLAT(30),
1  RPLONG(30), ENLAT(30), ENLONG(30), CRENGTH(30),
2  KORSTYLE(30), ATTRCORR(30), ATTRSUP(30), HILCATM(30),
3  DEFANGE(30), NPRCRDEF(30), DEFDIST(30.3), ATTRPRE(30.3),
4  NDATA, LMAX
C
C DIMENSION CUSCOR(30), COHLM(30), TDEFDIST(30),
1  DISTAD(30), DISTBC(30)
C
C EQUIVALENCE (TDEFDIST, PCZONE),
1  (CUSCOR, DEFANGE), (COHLM, NPRCRDEF), (DISTAD, KORSTYLE),
2  (CRENGTH, DISTBC)
C
C TYPE INTEGER PCZONE
C
C DATA (NDATA = 30), (LMAX = 3)
CEND
C CORCHAR *****
CUSE PLANTYPE LJUN71 *****
C
C COMMON / PLANTYPE/ INITSTK, CORHSL, CORBCHB
C
C PLANTYPE *****
CEND
C PKNAVAL LJUN71 *****
CUSE
C
C COMMON/ PKNAVAL/PKNAV(200)
C
C PKNAVAL *****
CEND
C
C CALL VALOC
C CALL STORGE
C NENTRY = 150
C CALL INITLC
C CALL TIMEP(-1)
C
C NPRINT = 1
C MYIDENT = 4HALOC
C CALL INITAPE
C
C IIP = -8
C READ BASFILE
C MYIDENT = THBASFILE
C CALL SETREAG
C ITEST = 6NOV 70
C IF (ITEST = INFORM) 10, 20, 10
C 10 WRITE(IWRIT, 11) ITEST, INFORM
C 11 WRITE(ICOMM, 11) ITEST, INFORM
C 11 FORMAT(///15(2H *), * WRONG BASFILE FORMAT. REQUESTED *.AB, * GOT
C      10.2A5)
C STOP
C
C 20 CALL RDARRAY(INDATE, C3)
C CALL SKIP(545)
C CALL RDARRAY(TUTFILE, 16)
C CALL RDARRAY(PCLAT, 601)
C CALL SKIP (100)

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CALL RDARRAY(INCHCHB1, 400)
CALL SKIP(150)
CALL RDARRAY(REFAT, 40)
CALL RDARRAY(INITSTRK, 3)
CALL SKIP(150)
CALL RDARRAY(CCHEL, 20)
CALL RDARRAY(RANGE, 800)
CALL SKIP(160)
CALL RDARRAY(NWPM5, 200)
CALL SKIP(200)
CALL RDARRAY(WLAT, 2000)
CALL SKIP(5800)
CALL SKIP(408)
CALL RDARRAY(PKNV, 200)
CALL RDARRAY(CINCYD, 150)
CALL TERM TAPE

C
CALL TIME(1) READ OPTIONS
100 READ (IREAD, 101) IRUNTP
101 FORMAT(A8)
WRITE(IWRIT, 102) IRUNTP
102 FORMAT('101 OUTPUT FOR RUN TYPE *A8)
IF (IRUNTP - 8HANGEMCD) 120, 110, 120
110 CALL RANGEMCD
CALL TIME(2)
GO TO 100
120 IF (IRUNTP - 8HMINRANGE) 140, 130, 140
130 CALL MINRANGE
CALL TIME(3)
GO TO 100
140 IF (IRUNTP - 8HMIRVREST) 160, 150, 160
150 CALL MIRVREST
CALL TIME(4)
GO TO 100
160 IF (IRUNTP - 8HFLAGREST) 180, 170, 180
170 CALL FLAGREST
CALL TIME(5)
GO TO 100
180 IF (IRUNTP - 7HLCREST) 200, 190, 200
190 CALL LCREST
CALL TIME(6)
GO TO 100
200 IF (IRUNTP - 7HREADMUL) 220, 210, 220
210 CALL READMUL
CALL TIME(7)
GO TO 100
220 IF (IRUNTP - 8HALLCCATE) 240, 230, 240
230 CALL TIMEPRT
CALL MULCON
GO TO 100
240 IF (IRUNTP - 5HPUNCH) 260, 250, 260
250 CALL PUNCHM
GO TO 100
260 IF (IRUNTP - 4HSTOP) 280, 270, 280
270 WRITE(IWRIT, 271)

```

51000
52000
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61000
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94000
95000
96000
97000
98000
99000
100000
101000
102000
103000
104000
105000
106000

FT-5.5

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```
WRITE(ICOM, 271)
271 FORMAT(/3H **** PROCESSOR ALSO COMPLETED ****)
CALL DEACTIV
MYIDENT = 7HWINFILE
CALL DEACTIV
STOP
280 IF(IIRUNTP - 4*MDURP) 1000, 290, 1000
290 CALL ABCRT
STOP
C
1000 WRITE(IWRIT, 1001)
1001 FORMAT(' ERROR IN RUN TYPE')
STOP
END
```

107000
108000
109000
110000
111000
112000
113000
114000
115000
116000
117000
118000
119000
120000
121000

5-75

ALOC

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PAGE NO.

6

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

IDENT ALOC

00531
00075
04231
01360
00024
00050
00020
00020
00014
00010
00001
00001
00001
00001
00003
00027
00012
00064
00226
00004
01132
00003
00310

ALOC

WPNRNP
WPNRNP
WPNRNP
REF
PAYLOAD
FILES
FILABEL
MYLABEL
ITP
MYIDENT
NSPRINT
TRORD
LOGFIL
MASTER
IFTPRINT
222
CIRCU
MACHINE
CONCHAR
PLANTYPE
PKNALVAL

EXTERNAL SYMBOLS

QUANTITY
TREAD
QUASTOPS
QUADICT.
VALOC
STORAGE
INITALC
TIMENE
INITAPE
SETHEAD
RUARMAY
SKIP
TERMTAPE
RINGERD
MINRNGE
MIRVMSI
FLAGMSI
LOGREST
READMUL
TIMEPRT
MULCON
PUNCRM
DEACIIV
ABORI
TSM.
STM.
QNSINGL.

CU0002	ICOMM	CU152	CU0152	CU0431	CU0431				
CU0001	IDENTAC								
CU0000	IFTRNT	CU004							
CU0000	INDATE	CU172							
CU0550	IMRV								
CU0007	INCOM								
CU0002	INDATE								
CU0003	INFCRM								
CU0000	INIDENT	CU134	CU0135	CU0146	CU0161	CU0161			
CU0007	INITALC								
CU0011	INITAPE								
CU0000	INITSTRK	CU222							
CU0006	INLNKTH								
CU0001	INRUNK								
CU0004	INSECR								
CU0005	INTIME								
CU1750	ICRHR								
CU2570	IPAY								
CU1440	IPENCODE								
CU0003	IPUNCH	CU271	CU271						
CU0000	LEAD								
CU1320	IRECODE								
CU2570	IREFUEL								
CU1130	IREG								
PU0527	IRUNTP	CU277	CU307	CU0313	CU0324	CU0335	CU0346	CU0357	CU0370
		CU453							CU0411
CU0002	ISIDE								CU0417
PU0530	ITEST	CU134	CU144	CU0157					
CU0002	ITMPMSL	CU0002							
CU0000	ITP	CU125	CU126						
CU0000	ITWORE								
CU1440	ITYPE								
CU0050	IMH01								
CU0170	IMH02								
CU0001	IMRIT								
PU0137	.10	CU137	CU137	CU0302	CU0302	CU0422	CU0422	CU0453	CU0463
PU0271	.100	CU136	CU234	CU0245	CU0356	CU0400	CU0410	CU0416	
PU0463	.1000	CU323	CU455						
PU0316	.110	CU314							
PU0324	.120	CU315	CU315						
PU0327	.130	CU325	CU325						
PU0335	.140	CU326	CU326						
PU0340	.150	CU336	CU336						
PU0346	.160	CU337	CU337						
PU0351	.170	CU347	CU347						
PU0357	.180	CU350	CU350						
PU0362	.190	CU360	CU360						
PU0170	.20	CU135	CU135						
PU0370	.200	CU361	CU361						
PU0373	.210	CU371	CU371						
PU0401	.220	CU372	CU372						
PU0404	.230	CU402	CU402						
PU0411	.240	CU403	CU403						
PU0414	.250	CU412	CU412						

P00417	.26J	00413	J0413
P00422	.270	00420	00420
P00453	.280	00421	J0421
P00456	.290	00454	00454
P00500	.ERASER	00113	J0116
P00004	..10000	00121	00121
P00005	..100001	00127	00127
P00006	..100002	00133	00133
P00042	..100003	00314	00314
P00043	..100004	00325	00325
P00044	..100005	00336	00336
P00045	..100006	00347	00347
P00046	..100007	00360	00360
P00047	..100008	00371	00371
P00050	..100009	00402	00402
P00051	..100010	00412	00412
P00052	..100011	00420	00420
P00064	..100012	00440	00440
P00065	..100013	00444	00444
P00066	..100014	00454	00454
P00067	..1001	00467	00467
P00030	..101	00275	00275
P00033	..102	00306	00306
P00007	..11	00143	00143
P00053	..271	00426	00426
C00011	JATTRIB		J0156
C00030	KORSTYLE		J0435
C05775	LA		
C01131	LMAX	C01131	
X00022	LCREST	00362	
C04230	P6		
C04230	WGROUP		
X00017	PINRNGE	00327	
X00020	MIRVRST	00340	
P00003	MP		
P00003	MPAYLSAU		
C00004	MSLTIME		
X00025	MULCOA	00406	
C04463	MXATTRIB		
C00003	MYCCHM		
C00000	MYFGRPT		
C00000	MYIDENT		
C00002	MYLNGTH		
C00001	MYSECR		
C00500	NADEC		
C00500	NADECCYS		
C00023	NALERT		
C00500	NALRTDLY		
C00240	NASM		
C00016	NASMTYPE		
C00010	ABNDRY		
C00022	NCLASS		
C00060	NCM		
C00026	NCNTRY	C0106	J0107

ALSC	DATA	00004	00211	00117	00120	00473	00461	00473	00176	00201	00207	00215	00220	00226	00231	00237	00245	00256
CU0021 NCOMPLEX																		
CU0004 NCCRM																		
CU0025 NCRTYPE																		
CU1130 NDATA																		
CU00430 NDECGYS																		
CU0005 NOPEN																		
CU0013 NG																		
CU0012 NRCUP																		
CU0000 NRCMBE1																		
CU0120 NRCMBE2																		
CU0000 NPRINT																		
CU0023 ROTHER																		
CU0015 NPAYLOAD																		
CU0006 NRCMBE1																		
CU0006 NRCMBE2																		
CU0007 NREF																		
CU0011 NREG																		
CU0003 NRTPT																		
CU0020 NATANKRAS																		
CU0030 NTOEC																		
CU0024 NTGTS																		
CU0014 NIGTHASE																		
CU0012 NTYPE																		
CU0000 NRD																		
CU0017 NRDTYPE																		
CU0000 NRDMS																		
CU0000 PCLAT																		
CU0036 PCLONG																		
CU0074 PCZONE																		
CU0000 PKNAV																		
CU0017 PLANTAPE																		
CU0020 PUNCHM																		
CU0004 QBDICT																		
CU0001 QCENTRY																		
CU0003 QBDICTPS																		
CU0033 QMSINSL																		
CU0000 RANGE																		
CU0020 RANGEDEC																		
CU1000 RANGEREH																		
CU0012 RDRARRY																		
CU0023 READKUL																		
CU0010 REFTIME																		
CU1000 REL																		
CU0000 RFLAT																		
CU0024 RFLONG																		
CU0016 RRGEMCD																		
CU0132 RPLAT																		
CU0170 RPLONG																		
CU0271 RUNSUM																		
CU0260 SFL																		
CU0012 SETHEAD																		
CU0014 SKIP																		
CU0040 SPEED																		

X00032 STM.
 X00006 STORAGE
 C00014 STKRFL
 C00074 TDEFUIST
 X00015 TERMIAPE
 C00000 TGTFILE
 X00002 THERD
 X00010 TIMEHE
 X00024 TIMEPRT
 C00010 TMAPLOC
 X00031 TSH.
 C00000 TWRD
 X00005 VALCC
 C00310 WLAT
 C00020 WLONG
 C00000 WPATHY
 C00000 WFEAC
 C00003 WTRATE
 C00006 WTSUM
 C00360 XDEG
 C03100 YIELD
 C0345 SYMBOLS

00141
 00104

00264
 00200
 00150
 00114
 00404

00273
 00102
 00247

00154

00304

00424

00433

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00300
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SUBROUTINE DEFALOC
  CSEUR DEFALOC LJUN71 *****
  CUSE  WPREG LJUN71 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  COMMON/MPREG/CMEL(20)
  DIMENSION CC(20)
  EQUIVALENCE (CMEL(1),CC(1))
  WPREG *****
  WPREG LJUN71 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C     STALL
  C
  COMMON/MPRHP/MPNS(200),MLAT(200),MLONG(200),
  LIMEG(200),LTYPE(200),LALERT(200),SBL(200),LREFUEL(200),YIELD(200)
  2 * REFTIME(200),EXPASM(200),MSRQUP
  EQUIVALENCE(LREFUEL,IPAY)
  DIMENSION IPAY(200)
  EQUIVALENCE (LOTHER,IMLEHT)
  EQUIVALENCE (PQ,MPRQUP)
  WPREG *****
  CONTROL LJUN71 *****
  C     USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM, DEFALOC,
  C     AND PRNTCON
  C
  COMMON/CONTR/STALADJ,CLOSE,MADOP,PROGRESS,QUALITY,NPASS,PRM,DELT
  IVAL,CONF,STIME,IVERIFT,CONR2,IMATCH
  LINDOMAG, LAM(2), FALMIR, TARFAC
  TYPE INTERM MAUCP
  TYPE REAL MINDMAG
  CONTROL *****
  LAMBDA LJUN71 *****
  C     USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALOC
  C
  COMMON/LAMBDA/
  1 LAMEF(200),SURPWP(200),PREMIUM(200),UPREMIUM(200)
  DIMENSION LAM(200)
  TYPE REAL LAM,LAMEF
  EQUIVALENCE ( LAM(1), LAMEF(1))
  LAMBDA *****
  WPNTYPE LJUN71 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  COMMON/MPNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTULY(80)
  LINALRTULY(80),RANGEDEL(80),ICLASS(80),HANGENEH(80),REL(80)
  2 IRECHGCEH(80), IPENMGUE(80)
  TYPE REAL NALMIDLY
  WPNTYPE *****
  MASTER LJUN71 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM,
  C     RESVAL, AND DEFALOC
  C
  COMMON/MASTER/IMDATE,IDENTNO,ISIDE,NRTPT,NCORR,NDEPR,RECOVER
  LANKF,NBURY,MEG,NTYPE,NMGROUP,NITIBASE,NPAYLOU,NASMI,TYPE,NRMUTYPE
  2 NANKBAS,NCOMPLEX,NCLASS,NALERT,NITUTS,NCOR,TYPE,NCNTRY

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C      NLFTAR      NOT ZERO IF MORE FIXES FOR THIS TARGET ON TPTFILE
C      CEND
C      CUSE
C      C      FIXED *****
C      C      DYNAMIC LJUNT1 *****
C      C      USED BY MULCON, PREMIUM, STALL, *AD, *ADOUT, *PRINTCM, RESVAL,
C      C      DEFALOC, AND PRINTCON
C      C
C      C      COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
C      C      1 TGLAT, TGLONG, TGLTRAD, VTC, *H(2), *NK, *VAL(3), *TAU(3), *INCLASS,
C      C      2 *ICLASSA, *INTYPE, *TARDEF, *INDPEN, *DISTOF, *DISTOG, *NBLN, *CTMULT, *VT,
C      C      3 *TGT(3), *PAYOFF, *COST, *PROFIT, *DPROFIT, *WTEST, *INJECT, *NUMEIX,
C      C      4 *JTG, *NUM, *IGT(30), *KORR(30), *HVAL(30), *PEN(30), *TCARR(30), *LDN
C      C
C      C      TYPE INTEGER TGTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
C      C
C      C      EQUIVALENCE (DNARRAY,IGTNAME)
C      C
C      C      DATA(LDA = 45)
C      C
C      C      DIMENSION VTD(30)
C      C      EQUIVALENCE(VTD, RVAL)
C      C
C      C      DYNAMIC *****
C      C      PAYLOAD LJUNT1 *****
C      C      USED BY ALLOCATE, MULCON, PREMIUMS, PRINTCM, RESVAL, DEFALOC
C      C
C      C      COMMON/PAYLOAD/NCBCHB1(40), I*HDI(40), NCBCHB2(40), I*HMD2(40)
C      C      1 *NASM(40), *IASM(40), *NCM(40), *NDECYS(40), *NADECCYS(40), *IMIRV(40)
C      C      EQUIVALENCE (*P,*MPAYLOAD), (*NCM(1)), *XDEG(1)),
C      C      *INDECCYS(1), *NTDEC(1)), (*NADECCYS(1)),
C      C      *NADECC(1)), (*NCBCHB1(1)), *NHDI(1))
C      C      DIMENSION XDEG(40), NTDEC(40), NADEC(40), *NHDI(40)
C      C      PAYLOAD *****
C      C      LOCDEF LJUNT1 *****
C      C      USED BY PRINTCM, RESVAL, AND DEFALOC
C      C
C      C      COMMON/LOCDEF/VTDX,NCMEP(200), *RATH
C      C      LOCDEF *****
C      C      TAPES LJUNT1 *****
C      C      COMMON/FILES/TPTFILE(2), *BASFILE(2), *MSLTIME(2), *ALCCTAR(2),
C      C      1 *TMAPLOC(2), *ALCUGRP(2), *STKFFIL(2), *EVENTAPE, *PLANTAPE
C      C
C      C      TYPE INTEGER TPTFILE, BASFILE, ALCCTAR, TMAPLOC,
C      C      1 *ALCUGRP, *STKFFIL, *EVENTAPE, *PLANTAPE, *ALCCT2
C      C
C      C      COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFORM,
C      C      1 *INSECR, INTIME, INLENGTH, INCONH(5)
C      C
C      C      COMMON/MYLABEL/ MYFORMID, MYSECR, MYLENGTH, MYCONH(5)
C      C      COMMON/ITP/ITP
C      C      COMMON/MYIDENT/ MYIDENT
C      C      COMMON/NOPRINT/ NOPRINT
C      C      COMMON/TWCRU/ITWORD
C      C      EQUIVALENCE (ITWORD, ITWCRU)
C

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```

COMMON/LOGFIL/PRINTGT,ALOGCT1,IMPMSL
C
C TYPE INTEGER PRINTGT, ALOGCT1
C
C DATA (ALOGCT1) = -3) * (IMPMSL = 1)
C
C EQUIVALENCE (ALOGCT2, ALOGCTAR(1))
C
CENU TAPES *****
C
C DIMENSION RATE(200)
C EQUIVALENCE (NUMGROUPING)
C TYPE REAL NORJ *****
C
CUSE WADOUT 1JUN71 *****
C
C USED BY STALL, WAD, WADOUT, AND PRINTNG *****
C
C
C COMMON/WADOUT/
C
C 1 PVMAX,IPVMAX,PPMAX,IPPMX,OVPMX,IPVMM,OPMM,IPMM,NUMMAX,NB
C 1 IPMM,INICA,NTC,MAX,VT,INVT,MAX,ALPHA,VIEF,VTZC
C
C WADOUT *****
C
C WADFINAL 1JUN71 *****
C
C USED BY STALL, WAD, WADOUT, AND PRINTNG *****
C
C
C COMMON/WADFINAL/
C
C 1 VTP(200),DELV(130),NUMG,IGG(30),ICP,ICPS,CTSPILL *****
C
C WADFINAL *****
C
C DATA(PKSMAX) = 04)
C
C DIMENSION NUMGROUP(200)
C
C TYPE LOGICAL NUMGROUP
C
C NUMGROUP(0) = 1 - NO NON-FIXED WEAPONS ALLOCATED FROM GROUP G
C
C 00 10 JX = 1, NG
C
C 10 NUMGROUP(JX) = 1
C
C GOAL = VTC * (1 - MINRILL)
C
C
C IF ((VERIFY.EQ.2).AND.(PROGRESS.EQ.2))SU25,14,7
C
C 14,7 NIX(1)=WISDEFNIX(1)
C
C NIX(2)=WISDEF
C
C NIX(3)=WISDEFNIX(2)
C
C PR(1)=PRX(1)
C
C PR(2)=1-PRX(1)-PRX(2)
C
C PR(3)=PRX(2)
C
C WATM = -99999.
C
C NUMG0
C
C NIX0
C
C NIX0
C
C NORJ05
C
C WAB = VTC
C
C IS(2) = INDEANG
C
C IS(3) = DESIG
C
C IS(4) = TASK
C
C IFIXFLAG = 0
C
C 00 STALL NOT CALLED. ?1 = STALL CALLED
C
C 00 80 JZLNG
C
C 00 NOREP(1)=0
C
C IF(INPASS.EQ.1).AND.(IF.(31,NE.2M) *ANG,IFIXEND,9E.30).OR,NUMFIX
C
C 1 .GT.30) 77, 76
C
C REMOVE STALL CONTRIBUTION TO SUBMP

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```

76 DO 81 I=1,NUM
   IGROUP = IG(I)
   SURPWP(IGROUP)=SURPWP(IGROUP)+1
   *1 CONTINUE
   IPIXFLAG = 1
77 NQ=80
   CLOST=0.
   NEATEU
   C FAIL ARRAYS FOR FIXED ALLOCATION
   IF (NUMFIX.GT.C/79.84)
79 IF (NPASS.GT.1)/78.23
78 IF (NUMFIX.GT.30)/72.71
72 NSUM=J
   D= 96 I=1,NUM
   NN=IG(I)
   NQEP(NN)=KORR(I)
   SURPWP(NN)=SURPWP(NN)+KORR(I)
   CCOST=CCOST+LAM(NN)*(-KORR(I))
   NSUM=SUM-KORR(I)
   IF (NSUM.LT.NUMFIX) 96,75
   CONTINUE
96 CONTINUE
71 DO 70 J=1,NUMFIX
   NQEP(IG(J))=NQEP(IG(J))+1
   SURPWP(IG(J))=SURPWP(IG(J))-1
70 CCOST=CCOST+LAM(IG(J))
   GO TO 75
83 NIEPP=MINOF(NUMFIX,30)
57 DO 85 I=1,NIEPP
   NN=IG(I)
   C IF BOMBER WEAPONS ARE FIXED, USE STALL ALLOCATION IF POSSIBLE.
   C OTHERWISE, OMIT THE BOMBER WEAPONS.
   K = ITYPE(NN)
   IF (ICLASS(K) - 1) 40,50,40
   C BOMBER WEAPON - USE STALL ALLOCATION IF LESS THAN 30 WEAPONS FIXED
   *0 IF (IPIXFLAG - 1) 41,4000,41
   C MORE THAN 30 WEAPONS FIXED - OMIT BOMBER FIX
   *1 PRINT 42, NN, IOTNAME, INDEXX, ITGT
   *2 FORMAT(/1A,119(1H*))//, * BOMBER FROM GROUP *13, * CANNOT BE FIXED
   IIN = MISSILE SATURATION ATTACK ON TARGET *18, * - INDEX *15, * FAR
   ZGET *15, //1A,119(1H*)
   NUMFIX = NUMFIX - 1
   GO TO 85
50 CONTINUE
82 IF (INACTIVE(NN).EQ.100) 82,92
82 PRINT 93, NN, IOTNAME, INDEXX, ITGT
93 FORMAT(/1A,119(1H*))//,119 WEAPONS FROM GROUP, 13, 204 CANNOT BEA
   ICF TARGET,1A,119(1H*) - INDEX = *15,8H TARGET *15, //1A,119(1H*)
   NUMFIX = NUMFIX - 1
   GO TO 85
92 IF (NQEP(NN).EQ.0) 89,91
89 IF (NQEP.NE.30) 85,86
86 NUM=NQ+1
91 NQEP(NN)=NQEP(NN)+1
   CCOST=CCOST+LAM(NN)
   SURPWP(NN)=SURPWP(NN)-1

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IF (SAVEFIX.AND.(IFIXFLAG.EQ.0)) 63, 85
  63 IFIXFLAG = 0
  IS(1) = NN
  IS(5) = ITIME(1)
  NFIXMS = NFIXMS + 1
  ITP = ITEMPSL
  CALL WHARRAY(15, 5)
  85 CONTINUE
  IF (INPASS.EQ.1.AND.(IFW(31).NE.2M .AND.(IFIXEND.GE.30) 87, 15
  87 DO 94 J=1,31
  94 IF(J).EQ.0
  IF (NLFTAR) 930, 93, 940
  MORE FIXES ON TGTFILE
  930 J = 0
  ITP = IGTFILE(1)
  931 J = J + 1
  CALL RDGRD
  932 DCCODE(8,933, 17*GRD) IFW(J), ITIME(J)
  933 FORMAT(A3, A5)
  IF (J.GE. NLFTAR) GO TO 934
  IF (J - 30) 931, 936, 936
  934 I = (ITGT - 1)GT 935, 936, 935
  935 IFW(31) = 2M
  936 LAST = J
  NLFTAR = NLFTAR - J
  GO TO 99
  C READ EXCESS WINS FIXED ON DEFENDED TGT
  93 IFIXBEG = 1, IFIXEND = 0
  98 DCCODE(62,88,ISTORE(1)) (IF(J), ITIME(J), J=IFIXBEG, IFIXEND), IFW(31)
  98 FORMAT (61A3, A7, A2)
  LAST = IFIXEND
  IF (IFIXAPE.EQ. 0) 95, 96
  96 ITP = IFTAPE S CALL RDARRAY(IFIXTEMP, 10)
  DCCODE(74,360,IFIXTEMP) IS(1), IS(2), (ISTORE(J), J=1,8)
  GO TO 67
  65 READ(18CD,360) IS(1), IS(2), (ISTORE(J), J=1,6)
  360 FORMAT(8A2,8A8)
  67 IFTGT = NUNGET(IS(1), 10)
  IS(2) = INDEX2
  IF ((IFW(31).EQ.2M ).OR.(IFIXEND.GE.30)) 99, 61
  61 IFIXBEG = IFIXEND + 1 S IFIXEND = IFIXEND + 6
  GO TO 98
  99 NTEMP = 0
  DO 90 J = 1, LAST
  IFW(J) = NUNGET(IFW(J), 3)
  IF (IFW(J).EQ.0) 90, 95
  NTEMP = NTEMP + 1
  ITEMP = ITEMP + 1
  ITEMP = ITEMP + ITIME(J)
  90 CONTINUE
  GO TO 97
  75 DO 74 J=1,8
  IF (INTEMP(J).EQ.0) 74, 75
  73 NEXTNEXT = 1
  GO TO NEXT

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IF(NEXT)=J
  KHR(INEXT)=NCRP(J)
  K = ITPF(J)
  KK = IPAY(J)
  AN = NCRP(J)
  NCRJ = NCRJ + (NHD(KK)*NDEC(KK))*SBL(J) *CCREL(IREG(J))
  1 * REL(K) * AN * (1.00 - MADPX)
74 CONTINUE
84 CONTINUE
  MP = 1
  C CHOOSE HIGHEST RATE OF RETURN FOR MISSILES
  DO 110 I=1,NG
    K = ITPF(I)
    IF (ICLASS(K).EQ.1.AND. INACTIVE(I).NE.100) 100,110
  100 IF(NZ.EG.0)101,102
  101 NZ=1
  102 CALL PREMIUMS(I)
    KR = IPAY(I)
    RATE(I)=(1.9*VTC*(NHD(KK)*NDEC(KK))/(MISDEF * PKTX * 2.)
    +PREMIUM(I) ) / LAM(I)
    IF(RATE(I).GE.RATE(MM))105,110
  105 MP=I
    RATE=RATE(MM)
  110 CONTINUE
  120 CALL PNTALL(19)
    IF (NCRJ .GE. MISDEF) 600, 400
    IF (NCRJ .GE. MISDEF) 600, 400
  *****
  C SATURATION ALLOCATION
  400 NCRP(MM)=NCRP(MM)+1
    IF (NCRGUP(MM) 410, 420
  410 NM = NCR + 1
    NCRGUP(MM) = NCRGUP(MM) + 1
  420 SURPWP(MM) = SURPWP(MM) - 1
    K = ITPF(MM)
    KR = IPAY(MM)
    NCRJ = NCRJ + (NHD(KK)*NDEC(KK)) * SBL(MM) * CCREL(IREG(MM))
    1 * REL(ITYPE(MM)) * (1.00 - RADPX)
  CALL PREMIUMS(MM)
  CCOST = CCOST + LAM(MM)
  500 MAXT = NCRP(MM) * PAGMAX
    (NCRP(MM) .GT. MAXT .AND. PROGRESS .LE. 1.01) 505, 506
  505 RATE(MM) = -10000.
  60 TO 507
  506 RATE(MM) = (.5 * VRAB * (NHD(KK) + NDEC(KK)) / (MISDEF * PKTX *
  + 2.)) + PREMIUM(MM) / LAM(MM)
  507 DO 502 I=1,NG
    K = ITPF(I)
    IF (ICLASS(K) .EQ. 1 .AND. INACTIVE(I) .NE. 100) 504, 502
  504 IF(RATE(I) .GT. RATE(MM)) 503, 502
  503 MP = I
  502 CONTINUE
  501 IF (NCRJ .GE. 30) 600, 501
    IF (NCRJ .GE. MISDEF .OR. RATE(MM) .LE. -9000) 600, 400
  C POST SATURATION MISSILE ALLOCATION*****

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600 CALL RESVAL
  VFIN = VTC - VTDA
  VHAM = VTDA
  COSMIN = CCOST
  C CALCULATE PAYOFF FOR ONE ADDITIONAL MISSILE
  C
900 VFI = VRAM
  MPENZ
  DC 950 I=1,NG
  K = I*TYPE(I)
  IF (ICLASS(K) .EQ. 1 .AND. INACTIVE(I) .NE. 100) 910, 950
910 NREP(I) = NREP(I) + 1
  NAXT = NREP(I) * FROMAX
  IF (NREP(I) .GT. NAXT .AND. PROGRESS .LE. 1.01) 960, 970
960 RATE(I) = -10000.
  GO TO 940
970 CALL RESVAL
  CALL PREMIUMS(I)
  RATE(I) = (VFI - VTDA * PREMIUM(I)) / LAM(I)
  IF RATE(I) .GE. RATE(NM) 920, 940
920 NM = I
  VHAM = VTUX
940 NREP(I) = NREP(I) + 1
950 CONTINUE
  RATE = RATE(NM)
  CALL PHATALL(27)
  IF RATE .GT. 1.1200, 1050
1050 IF (1 VTC - VFI) / VTC .GE. MINKILL/2000, 1200
  C ALLOCATE NEW WEAPON
1200 IF (400 .GE. 30 .AND. NEWGROUP(NM)) 2000, 1210
1210 NREP(NM) = NREP(NM) + 1
  IF (NEWGROUP(NM)) 1220, 1230
1220 NG = NG + 1
  NEWGROUP(NM) = 0
1230 SURPAP(NM) = SURPAP(NM) - 1
  CCOST = CCOST + LAM(NM)
  CPAYOFF = VTC - VHAM
  IF RATE(NM) + 4000. 1240, 900, 900
1240 PRINT 1250, ITGT
1250 FORMAT(1% ON TARGET *15, * MIN KILL REQUIRES TOO MANY WEAPONS*)
  C ALLOCATION BOOKKEEPING
  C TEST IF STILL PROFIT EXCEEDS THAT OF DEFALOC, IF SO RETURN
  C FIRST COMPUTE DEFALOC PROFIT, MAX OF 30 WEAPONS
2000 CALL RESVAL
  CPAYOFF = VTC - VTUX
  CPROFIT = CPAYOFF - CCOST
  C
  C CHECK MIN KILL CONSTRAINT FIRST
  IMADEIT = 0
  IF (VTDA - GOML) 2100, 2100, 2200
2100 IMADEIT = 1
2200 IF ((IMADEIT .EQ. 1) .AND. (ALPHA.EU.O.C)) 3000, 2300
2300 IF ((IMADEIT .EQ. 0) .AND. (ALPHA.NE. O.C)) 4000, 2400
2400 IF (CPROFIT .GT. PROFIT) 3000, 4000
  C DEFALOC ALLOCATION

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3000 NELN = -MISDEF
      ALPHA = IMAXDEF
      NASV = NEXT
      UC 3300 I = I + NEXT
      IG(I) = IFM(I)
      DELVT(I) = VTG
3300 NCEP(IG(I)) = NCEP(IG(I)) + KORH(I)
      UC 3100 J = I + NG
      IF (NCEP(J) .GT. 0) J200, 3100
3200 NEXT = NEXT + 1
      IG(NEXT) = J
      KORH(NEXT) = -NCEP(J)
3100 CONTINUE
      RESTORE FIXED #EAPONS
      UC 3400 I = 1, NASV
      J = IG(I)
3400 NCEP(J) = NCEP(J) + KORH(I)
      NASV = NASV + 1
      NUM = NEXT
      PROFIT = CPROFIT
      PAYOFF = CPAYOFF
      CCST = CCST
      VT = VTGX
      UC 3500 JJ = NASV, NUM
      J = IG(JJ)
      NCEP(J) = NCEP(J) + KORH(JJ)
      CALL RESVAL
      NCEP(J) = NCEP(J) - KORH(JJ)
      DELVT(JJ) = VTGX - VT
3500 CONTINUE
      GO TO 5025
C     RESTORE STALL ALLOCATION
4000 UC 4100 J = 1, NG
      IF (NCEP(J) .GT. 0) J200, 4100
4200 SURP(J) = SURP(J) + NCEP(J)
4100 CONTINUE
      NELN = MISDEF
C     SET VARIABLES FOR NO ALLOCATION IF STALL NOT CALLED
      IF (IFXFLAG) 4400, 4400, 4500
4400 NUM = 0
      PROFIT = 0
      CCST = 0
      PAYOFF = 0
      ICP = 0
      GO TO 5025
C     RESTORE STALL VARIABLES
4500 CONTINUE
      UC 4300 J = 1, NUM
      IGRUP = IG(J)
4300 SURP(IGRUP) = SURP(J) + SURP(J) - 1
5025 CALL PRNTALL(10)
      RETURN
      END

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S-ITS DEFALOC

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ED 0

PAGE NO.

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IGENT DEFALOC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

DEFALOC
J2412
J0473
J0024
J4231
J0022
J1440
J1560
J0027
14726
J0015
J0012
J0015
J0304
J0620
J0314
J0020
J0014
J0010
J0001
J0001
J0001
J0001
J0003
J0022
J0410

EXTERNAL SYMBOLS

Q3010040
Q1010100
Q1002100
TEND.
Q3000040
Q1003100
Q000101.
WARRAY
R0000
R0000
NUNGET
PREMIUMS
PANTALL
RESVAL
XMINUF
TSM.
DEC.
STM.
QINSINCL.

SATS DEFALOC

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PAGE NO.

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CU0360 ALENTOLY
CU0012 ALCCGRP
CU0001 ALCC11
CU0006 ALCC12
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PU0324 CRFMT.
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CU0000	NRPAS	01556	01556	01706	01706				
PU2401	NXSV	01407	01556	01706	01706	02404			
PU2402	NY	00534	01556	01706	01706				
PU2403	NZ	00553	01421	01424	01466	0167C			
PU2404	PAYM	01701	01701						
CU0044	PAYOFF	01176	02177	02262					
CU0207	PEN								
CU0466	PEX								
CU2755	PEAX								
CU0006	PKTX	01447	01447	01612	01612				
CU0017	PLANTAPE								
CU0002	PPMX								
CU0020	PREMIUM	01452	01453	01616	01616	01736	01736		
XU0014	PREMIUMS	01425	01547	01730					
CU0006	PRM	01470	01762	02302					
XU0015	PRNTALL								
CU0046	PROFIT	01475	02075	02174	02175	02266			
CU0003	PROGRESS	00517	00517	01570	01570	01720	01720		
CU0011	PRX	00542	00544	00544	00545	00546			
CU0000	PVRMX								
CU0003	PX	00542	00545	00546					
XU0003	Q1002100	00657	02245						
XU0006	Q1003100	01474	01651						
XU0002	Q1010100	00527	00540	01563	01713				
XU0005	Q3000000	01046	01503	02003	02011				
XU0001	Q3010000	00506	01511	02017					
XU0007	Q3010000	00000	00474						
XU0007	Q3010000	02307							
CU0003	QUALITY	01400	01401	01544	01544				
CU0013	RADPR								
CU0000	RANGE								
CU0020	RANGEDEC								
CU1060	RANGEREFF								
PU0003	RATE	01454	01455	01461	01574	01636	01637	01655	01740
		01756	02032	01461	01462	01756	01757	01765	01741
		00550	00550						
CU0011	RAIM	01214							
XU0012	RDARMAY	01120							
XU0011	RDWCHD								
CU0010	REFTIME								
CU1000	REL	01375	01376	01541	01542				
XU0016	RESVAL	01657	01726	02045	02215				
CU2571	RISK								
CU0151	MVAL								
CU0007	RX	00526	00526	00537	00537				
CU0116	SAVEFIX	01047							
CU2260	SBL	01371	01372	01535	01536				
CU0040	SPEED								
CU7331	SS16								
CU0000	STALADJ								
CU1016	STARMAY								
XU0022	STH.								
CU0011	STIME	00765	01007	02036					
CU1005	STR2X								
CU1365	STRX								

[illegible]

5.4-15	DEFALOC				ED	0	PAGE NO.	21
CGU020	VTEF							
CGU010	VIMBA							
CGU015	VIMIN							
CGU012	VTC							
CGU131	VICA							
CGU000	VTP							
CGU021	VTC							
CGU002	MADOP							
CGU310	MLAT							
CGU020	MLONG							
CGU000	MPATGT							
AGU010	MARWAY							
CGU050	RTST							
PGU505	MS000C1							
PGU574	MS000C2							
PGU620	MS000C3							
PGU550	MS000C4							
PGU710	MS000C5							
PGU750	MS000C6							
PGU105	MS000C7							
PGU171	MS000C10							
PGU230	MS000C11							
PGU252	MS000C12							
PGU306	MS000C13							
PGU337	MS000C14							
PGU411	MS000C15							
PGU627	MS000C16							
PGU173	MS000C17							
PGU211	MS000C20							
PGU241	MS000C21							
PGU261	MS000C22							
PGU206	MS000C23							
PGU244	MS000C24							
PGU273	MS000C25							
CGU300	XDEG							
AGU017	XMINOF							
CGU770	XUP							
PGU241	XU							
CGU300	YIELD							
	CGU747 SYMCLS							

5.5.14

11/69/11

```

SUBROUTINE FLA8ST *****
  FLAGST  LUN71 *****
  C
  C THIS ROUTINE READS AND INTERPRETS THE
  C FLAG RESTRICTION INPUT CARD
  C
  C *****
  C MASTER  LUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADGUL, PUNTCN,
  C RESVAL, AND DEFALOC
  C
  C *****
  C COMMON/MASTER/IMDATE,IDENTING,ISIDE,NRPT,NCON,NOPEN,NRECOVER
  C 1,NREF,NBUNT,NEGANTYPE,NGROUP,INTBASE,MPAYLOAD,NASINITY,NMNDTYPE
  C 2,NTANKS,NCOMPLEX,NCLASS,NALCNT,NTSTS,NCRTYPE,NCNTRY
  C *****
  C EQUIVALENCE (NGROUP,NG) (NALCNT,NCINEM)
  C *****
  C MASTER
  C FLAGST  LUN71 *****
  C
  C *****
  C COMMON / FLA8ST/ FLA8CK(9,200)
  C
  C *****
  C TYPE LOGICAL FLA8CK
  C
  C *****
  C FLAGST *****
  C MACHINE  LUN71 *****
  C
  C *****
  C COMMON /MACHINE/ IREAU, IWRIT, ICONN, IPUNCH
  C
  C *****
  C MACHINE *****
  C IOLUMPY  LUN71 *****
  C
  C *****
  C THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C SINCE IT DEFINES COMMON /MADPN/, IT SHOULD NEVER BE USED IN
  C CONJUNCTION WITH COMMON /MADPN/.
  C
  C *****
  C COMMON /MADPN/ INPUT(10), NVARS, NAMES(40), INVALU(2,40),
  C 1 INDEX1(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
  C 2 MYFGR(100), MYTYPE(100), MYVAL(100), FVAL(100),
  C 3 MYGCT(100), NDEFLT, FILLER(5560)
  C
  C *****
  C EQUIVALENCE (MYVAL, FVAL)
  C
  C *****
  C IOLUMPY *****
  C *****
  C *****
  C TYPE LOGICAL SET
  C
  C *****
  C WRITE(IWRIT, 1)
  C 1 FORVAL(//) USER INPUT PARAMETER CARDS FOR OPTION FLAGREST*)
  C
  C *****
  C 10 READ (IREAD, 11) MYGROUP, MYCPT, INPUT
  C 11 FORPAT(A4, A6, I0A7)
  C 12 FORPAT(1X, A4, A6, I0A7)
  C 13 IF(MYGROUP - 3)END) 2X, I000, 20
  C *****
  C INTERPRET CARD
  C 20 MYGROUP = NUMGEI(MYGROUP, 4)
  C IF(MYGROUP) 40, 40, 30
  C 20 IF(MYGROUP - NONGRP) 50, 50, 40
  C *****
  C GROUP NUMBER IN ERROR
  C *****

```

```

40 WRITE(UNIT, 41) MYGROUP
41 FORMAT(10X,IS,** IS AN INVALID GROUP NUMBER. REQUEST IGNORED*)
GO TO 10 CHECK OPTION
C
50 KK = MYGROUP
SET = .FALSE.
IF(MYOPT = 0) SELECT 80, 60, 80
C
60 DO 70 I = 1, 9
SELECT OPTION
FLAGOK(I, KK) = .FALSE.
70 CONTINUE
SET = .TRUE.
C
80 ITEST = NUMGET (INPUT, 80)
90 II = AMCDF(ITEST, 10)
ITEST = ITEST / 10
IF(II) 110, 110, 100
100 FLAGOK(II, KK) = SET
110 IF(ITEST) 10, 10, 50
C
1000 WRITE(UNIT, 1001)
1001 FORMAT(//50X,* FLAG RESTRICTIONS** THE FOLLOWING GROUPS ARE REST
RICTED TO THE FOLLOWING FLAGS (REGIONS). (IF A GROUP DOES NOT AP
PEAR, IT IS UNRESTRICTED.)*
WRITE (UNIT, 1002) (I, I = 1, 9)
1002 FORMAT(11X,*FLAG50/49A,913/44X,*GROUP*)
DO 1030 I = 1, NRGROUP
KKK = I
DC 1010 J = 1, 9
IF (FLAGOK(J, KKK)) 1010, 1020
1010 CONTINUE
GO TO 1030
1020 WRITE(UNIT, 1021) I, (FLAGOK(J, KKK), J = 1, 9)
1021 FORMAT(43X,15,1X,9(2X,11))
1030 CONTINUE
RETURN
END

```

25000
26000
27000
28000
29000
30000
31000
32000
33000
34000
35000
36000
37000
38000
39000
40000
41000
42000
43000
44000
45000
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
58000
59000
60000
61000

IDENT

00500
00126
00227
00071
00004
14251

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

FLAGMST
MASTER
FLAGMST
MACHINE
MAURPN

EXTERNAL SYMBOLS

THEND.
Q3Q1U04C
Q3R0U04C
QYWEVALL
Q8W0ICT.
NUMGET
XPCDF
TSM.
SIM.
Q8Q0UT4
SLC.
SLI.
QNSINGL.

POINTS	FLAGST	11/29/71	ED	0	PAGE NO.	4
P00460	ISIN.	00150	00166	00167	00217	00315
P00400	CMRTI.	00146	00176	00222	00304	00352
P00003	CREMT.	00141	00140	00222	00304	00371
P00001	DICT.	00130	00140	00222	00304	00371
P00462	ENDING.	00221	00250	00300	00303	00172
P00000	EXIT.	00131	00375	00460	00307	00362
C01361	FILLER	00463	00271	00336	00357	00370
P00000	FLAGST	00242	00231	00357	00357	00202
P00126	FORMAT.	00176	00231	00357	00357	00370
C01050	FVAL	00131	00375	00460	00307	00362
P00141	GG00000.	00131	00375	00460	00307	00362
P00160	GG00001.	00142	00176	00222	00304	00371
P00176	GG00002.	00161	00212	00300	00303	00370
P00222	GG00003.	00212	00276	00305	00305	00370
P00304	GG00004.	00305	00345	00312	00314	00316
P00323	GG00005.	00305	00345	00312	00314	00316
P00371	GG00006.	00345	00312	00314	00316	00316
P00470	I	00235	00312	00314	00316	00316
C00002	ICOM	00237	00404	00445	00456	00456
C00001	IDENTIC	00237	00404	00445	00456	00456
C00000	IMDATE	00237	00404	00445	00456	00456
P00401	IN00001.	00237	00404	00445	00456	00456
P00402	IN00002.	00237	00404	00445	00456	00456
P00403	IN00003.	00237	00404	00445	00456	00456
C00203	INDEX1	00237	00404	00445	00456	00456
C00253	INDEX2	00237	00404	00445	00456	00456
C00123	INDEX3	00237	00404	00445	00456	00456
P00460	INITIAL.	00131	00375	00460	00307	00362
C00000	INPUT	00155	00173	00251	00273	00273
C00003	INWALL	00141	00141	00141	00141	00141
C00000	IREAD	00257	00263	00432	00432	00432
C00002	ISTOE	00252	00253	00261	00261	00261
P00471	IT	00132	00132	00160	00160	00160
P00472	ITEST	00344	00222	00273	00273	00273
C00001	ISRT	00222	00273	00273	00273	00273
P00141	.10	00177	00177	00177	00177	00177
P00265	.100	00177	00177	00177	00177	00177
P00275	.1000	00177	00177	00177	00177	00177
P00340	.1010	00177	00177	00177	00177	00177
P00344	.1020	00177	00177	00177	00177	00177
P00371	.1030	00177	00177	00177	00177	00177
P00272	.110	00177	00177	00177	00177	00177
P00201	.20	00177	00177	00177	00177	00177
P00206	.30	00177	00177	00177	00177	00177
P00211	.40	00177	00177	00177	00177	00177
P00223	.50	00177	00177	00177	00177	00177
P00234	.60	00177	00177	00177	00177	00177
P00243	.70	00177	00177	00177	00177	00177
P00247	.80	00177	00177	00177	00177	00177
P00253	.90	00177	00177	00177	00177	00177

DATA FLAGS:

11/29/71 ED U PAGE NO. 5

P00003 ..1 C0136
P00031 ..100000 C0177
P00045 ..100001 C0231
P00047 ..1001 C0301
P00101 ..1002 C0310
P00115 ..1021 C0350
P00015 ..11 C0145
P00022 ..12 C0164
P00032 ..41 C0215
P00063 ..Z00001. C0360
P00473 J C0332
P00474 KK C0224
P00475 KKK C0330
C00373 KORE
C00540 MYFCHV
C01214 MYG01C
P00476 MYG01P
C00374 MYNAME
P00477 MYOPT
C00704 MYTYPE
C01050 PYVAL
C00023 NALERT
C00013 NAMES
C00016 NASMYPE
C00010 NENDRY
C00022 NCLASS
C00028 NCNTRY
C00021 NCOMPLEX
C00004 NCCORR
C00025 NCCRTYPE
C01360 NDEFLT
C00005 NOPEN
C00013 NG
C00014 NGROUP
C00023 NOTHER
C00015 NPAYLOAD
C00006 NRECOVER
C00007 NREF
C00011 NREG
C00003 NRIPT
C00020 NTANKBAS
C00024 NTGTS
C00014 NTOTBASE
C00012 NTYPE
X00000 NUMGET
C00012 NVARS
C00017 NNMIDTYPE
P00040 P00000.0
P00010 P0001.0
X00003 03000040
X00002 03010040
X00005 0800101.
X00012 0800014
X00004 09000000

00340 00353 00364 00423

00441
00452

00216 00223

00176 00203 00204 00206

00165 00167 00231

00373 00373

00207 00207

00201 00247

00406 00420

00270

00335 00441 00127

5.4TS FLAGHST

11/29/71 ED 0 PAGE NO: 6

XU0015 QNSTINGL.	U0377					
PU0370 SET	U0250	U0266				
XU0014 SLI.	U0153					
XU0013 SLC.	U0171					
XU0011 STM.	U0136					
XU0001 THEND.	U0137	U0277	U0306	U0346		
PU0373 TS000C3.	U0326	U0174	U0302	U0321	00367	
XU0010 TSH.	U0143					
PU0410 UP000C0.	U0236	U0312	U0317	U0404	00411	00412
PU0422 UP000C1.	U0333	U0341	U0354	U0416	00424	00425
PU0431 UP000C2.	U0260	U0432	U0433	U0436	00413	00427
PU0440 UP000C3.	U0225	U0441	U0442	U0447	00415	00427
PU0451 UP000C4.	U0331	U0452	U0453	U0447		
PU0460 W5000C1.	U0243	U0457	U0454	U0457		
PU0314 W5000C2.	U0320					
PU0327 W5000C3.	U0374					
PU0334 W5000C4.	U0342					
PU0355 W5000C5.	U0366					
XU0007 XMCDF	U0255					
U0175 SYMBCLS						

```

FUNCTION FMUP(S)
  CSUMK      FMUP      1JUN71      *****
  CUSE      WADARN      1JUN71      *****
C
C  USED BY MULCON, PREMIUMS, MAD, MADOUT, PHNTNG, RESVAL, DEFALCC,
C  STALL, FMUP, SUMTSH, TABLEUP, ROADCRU
C
C  COMMON /WADARN/ JGT, INACTIVE(200), TCA(200),
1  TVALTCA(200), VTCA(200), MUP(200), MISC(6,200),
2  SSIG(200), MINKILL, MAXKILL, MAXCOST, ILAW,
3  MISDEF, MORH(200), PER(200), MUP(200), JGT, INEXT,
+  MINKILX, MAXKILX, MAXCSTX, MISDEX, NACTV, IUX(200), ICAR(200),
5  MORRX(200), PERX(200), STRX(200), STR2X(200), LSTMAX
C
C  TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C  TYPE REAL MINKILX, MAXKILX, MAXCSTX
C
C  DIMENSION STARHAY(1607), ISTARAY(1607)
C  EQUIVALENCE (STARHAY, ISTARAY, JGT4)
C
C  DATA (LSTMAX = 1607)
C
C  WADARN *****
C
C  IF (ILAW .GT. 0) C, I
C
C  POWER LA=
C  I FMUP = EXPF(-S)
C  RETURN
C
C  SQUARE ROOT LA=
2  SS = SORTF(S)
  FMUP = EXPF(-SS) * (1. + SS)
  RETURN
END

```

1000
51000
2000
1800
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
16000
17000
18000
19000
20000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000

5.075

FMUP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

FMUP

W400PN

EXTERNAL SYMBOLS

IDENT

J0072

J0003

14726

FMUP

11/29/71

ED

0

PAGE NO.

2

1454


```

SUBROUTINE GETDATA
  CUSUB
  C GETDATA 1000071 *****
  C
  C THIS ROUTINE PREPARES THE STATIC DATA WORK FILES (I.E. THE WEAPON-
  C TARGET INTERACTION FILES) FOR PROGRAM ALLOC.
  C
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, AD, MADOUT, PRNTNOM,
  C RESVAL, AND DEFALOC
  C
  C COMMON/MASTER/INDATE,INDENTING,ISIDE,INKPT,INCRN,INDPEN,INRECOVER
  C 1,NREF,INBNDY,INREG,INTYPE,INGROUP,INTOTBASE,INPAYLOAD,INAMTYPE,INAMDTYPE
  C 2,INTANKBAS,INCOMPLEX,INCLASS,INALERT,INTUTS,INCRITYPE,INCNTRY
  C EQUIVALENCE (INGROUP,INALERT,INOTHEW)
  C
  C MASTER *****
  C TAPES 100071 *****
  C COMMON/FILES/TOTFILE(2),BASEFILE(2),MSLTIME(2),ALOCSTAR(2),
  C 1 TPAALOC(2),ALOCGRP(2),STAKFIL(2),EVENTAPE, PLANTAPE
  C
  C TYPE INTEGER TOTFILE, BASEFILE, ALOCSTAR, TPAALOC,
  C 1 ALOCGRP, STAKFIL, EVENTAPE, PLANTAPE, ALOCST2
  C
  C COMMON/FILABEL/ INIDENT, INHUNNO, INDATE, INFCRM,
  C 1 INSECR, INTIME, INLENGTH, INCOMH(5)
  C
  C COMMON/MYLABEL/ MYEGR-T, MYSECR, MYLENGTH, MYCOMM(5)
  C COMMON/ITP/ZIP
  C COMMON/IDENT/ MYIDENT
  C COMMON/ACPRINT/ ACPRINT
  C COMMON/ACOR/ACORD
  C EQUIVALENCE (ITACOR, ITACOR)
  C
  C COMMON/LOCFIL/ACINTOT,ALOCFIL,ITMPMSL
  C
  C TYPE INTEGER ACINTGT, ALOCST1
  C
  C DATA (ALOCST1 = -3), (ITMPMSL = 1)
  C
  C EQUIVALENCE (ALOCST2, ALOCSTAR(1))
  C
  C TAPES *****
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  C COMMON/MPAREG/ACREL(2)
  C DIMENSION CC(24)
  C EQUIVALENCE (CCREL(1),CC(1))
  C MASTER *****
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  C COMMON/MPATYPE/HANDE(80),CEP(80),SPEED(80),ALERTJULY(80)
  C 1,ALERTJULY(80),HANGEDE(80),ICLASS(80),HANGEDEF(80),REL(80)
  C 2,IECODE(80), IPECODE(80)
  C TYPE REAL ALERTJULY
  C MASTER *****
  C

```

```

CUSE
C
PAYLOAD 1JUN71 *****
USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
COMMON/PAYLOAD/ACBOMB(140),IMHD1(40),ACBOMB2(40),IMHD2(40)
1,NAS(40),IAS(140),AC(140),NUECCYS(140),NADECCYS(40),I-IRV(40)
EQUIVALENCE (MP,MPAYLOAD),(NOM(1),XDEG (1)),
PINECCYS(1),NUECC(1),(NADECCYS(1),
NADECC(1),(ACBOMB(1),IMHD(1))
DIMENSION XDEG(40),NUECC(40),NADECC(40),IMHD(40)
PAYLOAD *****
WPNGRP 1JUN71 *****
USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
STALL
C
COMMON/WPNGRP/WPNS(200),PLAT(200),MLONG(200),
TIME(200),ITYPE(200),TALENT(200),SBL(200),IREFUEL(200),YIELD(200)
2,REFINE(200),EXPASM(200),MGRUP
EQUIVALENCE(IREFUEL,ITAY)
DIMENSION IPAY(200)
DIMENSION ITHM(200)
EQUIVALENCE (OTHER,IPLERT)
EQUIVALENCE (MGR,MGROUP)
WPNGRP *****
PLANTYPE 1JUN71 *****
COMMON / PLANTYPE/ INITSTAK, CORMSL, CORBOMB
C
PLANTYPE *****
REF 1JUN71 *****
COMMON /REF/ RPLAT(20), RPLONG(20)
REF *****
CORBOMB 1JUN71 *****
COMMON /CORBOMB/ PCL-T(30), MCLONG(30), PCZONE(30), RPLAT(30),
1 RPLONG(30), ENTLAT(30), ENTLONG(30), CRLENGTM(30),
2 KORSTYLE(30), ATT-CORR(30), ATRSUBP(30), MLCATTM(30),
3 DEFRANGE(30), NPKORDEF(30), DEFUIST(30,3), ATTIPRC(30,3),
4 NDATA: LMAX
C
DIMENSION COSCOS(30), CORLEN(30), IDEFDIST(30),
1 DISTAD(30), DISTBC(30)
C
EQUIVALENCE (IDEFDIST,PCZONE),
1 (COSCOS,DEFRANGE), (CORLEN,NPKORDEF), (DISTAD,KORSTYLE),
2 (CRLENGTM,DISTBC)
C
TYPE INTEGER PCZONE
C
DATA (NDATA = 3), (LMAX = 3)
CORBOMB *****
DYNAMIC 1JUN71 *****
USED BY MULCON, PREMIUMS, STALL, MAU, MAUCUT, PRNTNOM, RESVAL,
DEFALOC, AND PRNTCON
COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTNLYLOC,FLAG,IGTMULT,

```


11/29/71

```

TYPE REAL MINMLZ, MAXMLZ, MAXCOSZ
TYPE INTEGER DESIGZ, IASKZ, CNTRYLCZ, FLAGZ, YGTNAMZ
DIMENSION IALOC(95), NALOC(95)
EQUIVALENCE (IALOC, (GINAMZ), (NALOC, YGTNAME))
DATA (LTG = 95)
FOR DEFINITIONS OF YGTNAMZ THROUGH DISTDZ, SEE COMMON /DYNAMIC/
IN SUBROUTINE MULCON.
DISTD (MCON) DISTANCE FROM CORRIDOR ORIGIN TO TARGET
ATTD (MCON) ATTENTION FROM CORRIDOR ORIGIN TO TARGET
NFIEZ NUMBER OF FIXED ASSIGNMENTS THIS TARGET ON IGFIL
LTG LENGTH OF TARGET INPUT ARRAY FROM IGFIL
***** LOCAL VARIABLES FOR SUBROUTINE GETDATA *****
DIMENSION ATTRAD(30), CROSSDST(30), ATTR(4), RATE(4), DISTT(4)
1, DPLAT(30), UPLONG(30), TATAPRG(30)
EQUIVALENCE (DPLAT, PLAT), (UPLONG, POLONG)
DIMENSION LASTGT(10)
DATA (IBOMBER = 2), (MTIMES9 = 3), (MTIMESW = 5), (NWUSCT = 32),
1 (NSLTHRAK=32), (LUNDISK=48), (NAMDIRC=8), (DC5162)
TYPE INTEGER A
EQUIVALENCE (MUESIG, UESIG), (JCNTRY, CNTRYLOC)
ATTRAD (MCON) SUM OF PHECORRIDOR AND CORRIDOR ATTENTION
CROSSDST (MCON) PERPENDICULAR DISTANCE FROM CORRIDOR AXIS TO 1ST
ATTR TEMPORARY STORAGE - ATTENTION
RATE TEMPORARY STORAGE - MODIFIED ATTENTION
DIST CORRIDOR ORIGIN LATITUDE
UPLAT CORRIDOR ORIGIN LONGITUDE
DPLONG CORRIDOR ORIGIN LONGITUDE
IBOMBER CLASS CODE FOR BOMBER CLASS
MTIMESK MAXIMUM NUMBER OF READ ATTEMPTS TO CORRECT ERROR
MTIMESW MAXIMUM NUMBER OF WRITE ATTEMPTS TO CORRECT ERROR
NWUSCT NUMBER OF WORDS PER SECTOR ON DISK
NSLTHRAK NUMBER OF SECTORS PER TRACK ON THE DISK
LUNDISK LOGICAL UNIT NUMBER FOR DISK
NAMDIRC ACTIVE FILE DIRECTORY NAME
G, A ITERATION INDEXES
FIRST POSITIVE FOR FIRST TARGET ON STATIC FILE
NCONAM LOGICAL FILE NAME FOR CURRENT STATIC FILE
NCOUSE INTERNAL NUMBER OF STATIC FILE CURRENTLY IN USE
NCWAT NUMBER OF WORDS WRITTEN ON CURRENT STATIC FILE
LCONGW SECTOR ADDRESS OF LAST GOOD I/O OPERATION G - DISK
***** OPTIONAL FILEHANDLER COMMONS *****
COMMON /INTFILE/ INTUNIT, LINTF, NCWALOC, MYITP(10)
COMMON /DC5162/ LENLIST, NCWACTIV, LFNAME(30), NCWGRUS(30),

```

11/29/71

```

1          NINIRNL, LINTRNL
C
C          ENTRY GETDATA
C          READ DATA FOR NEXT TARGET FROM BASIC TARGET FILE
C          (FIRST PASS ONLY)
C
C          IF (NPASS - 1) 801, 801, 10000
C
C          801 IF (FIRST) 802, 302, 804
C          802 GO TO (802, 803, 9110, 9211), LSTATUS(NOWNAM) + 2
C          803 LOCNOW = LOCATE(NOWNAM)
C          CALL TIMEVE(4)
C          IF THIS IS LAST TARGET, TERMINATE FILE
C
C          IF (ITGT - NTGSI) 804, 1320, 1320
C
C          804 ITGT = ITGT + 1
C          JGT = ITGT
C          READ TARGET INPUT FILE (TGTFILE) FOR THIS TARGET
C
C          806 ITP = TGTFILE(1)
C          CALL ROADWAY(ITGNAMZ, LIG)
C          TRANSFER FIRST SECTION TO DYNAMIC ARRAYS
C          DC 810 JFK = 1, 27
C          810 NARIC(JFK) = INALOC(JFK)
C          TRANSFER LATER DATA TO STATIC ARRAYS
C          MISDEF = MISDEL + TINIFAC
C          NBLN = MISDEF
C          MINKILL = MINKILL
C          MAXKILL = MAXKILL
C          810 MAXCOST = MAXCOST
C          INDYREN = INDYREN
C          DISTOF = DISTOFZ
C          DISTUG = DISTUGZ
C          LEAVE DISTANCE DATA AS HEAD IN
C          FILE EMRCH PROTECT
C          IF (N-2) 811, 811, 809
C          809 M = 2
C          811 CPMULT = TGTMULT
C          IANAVL = 0
C          IF (ICLASSN - 9) 901, 921, 901
C          821 IANAVL = 1
C
C          *****
C          900 CALCULATE BASIC #PN/TGT INTERACTIONS
C          901 DC 903 I = 3, NCOBY
C          AITRAD(I) = TAITPHRE(1) * AITRCD(I)
C          A1 = TGTLAT - RELAT(I)
C          81 = DELONG ( TOTLON, HPLONG(I))
C          CHDST = ( 81 * DPLAT(I) - A1 * DPLONG(I) ) * COSCOR(I) / CORLN(I)
C          IF (CHDST - LT(0,0) 902, 903
C          902 CHDST = -CHDST
C          903 CXCOSDST(I) = CHDST
C          DC 923 G = 1, NG
C          941 K = ITYPE(G)
C          K = TIMEG(G)
C          IP = IPAY(G)

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      INACTIVE(G)=0
      UC 300 I = 1, NCCRR
      300 PENALT(I) = J00
      NCCRR(G) = 0
      PEX(G) = 1.0
C
C      CHECK FOR TARGETS TO BE RESTRICTED TO WEAPONS WITH NON-ZERO PKNAY
C
C      IF ((IAMNAVL .GT. 0) .AND. (PKNAY(G) .LE. 0.0)) 954, 955, 956
C      CHECK FOR FLAG AND ENTRYLOC RESTRICTIONS
C
C      822 KKK = G
C      LFLAG = FLAG
C      IF (LFLAG) 8049, 8049, 7394
C      IF (.NOT. FLAGOK(LFLAG, KKK)) GO TO 954
C      FLAG OK
C      8049 INEXCTY = ILE(CNTRY, CTRYCU, NCNTRY)
C      IF (INEXCTY) 8051, 8051, 7398
C      7398 IF (.NOT. CTRYOK(INEXCTY, KKK)) GO TO 954
C      OKAY SO FAR
C      8051 CONTINUE
C      CHECK TO SEE IF DISTANCE GREATER THAN MINRANGE.
C      DISTMX = UISP(PLATIG) * LONG(G) * TGFLAT * TGCLONG
C      IF (DISTMX .LT. HANGERIN(G)) GO TO 954
C      909 IF ((ICCLASS(K) .NE. BOMBER) .AND. (IMIV(IP) .GT. 0)) 960, 970
C      CHECK TO SEE IF THIS WEAPON IS ALLOWED TO HIT THIS TARGET
C      960 ISYS = IMIV(IPAY(G))
C      DO 965 I = 1, NMYNAV
C      IF (ISYS = MYNAV(I)) 965, 961, 965
C      961 IF (MULTARG(I) .AND. (TGTMULT .GT. 1.0)) 970, 962
C      962 IF (TARCEF(I) .AND. (MISDEF .GT. 0)) 970, 963
C      963 MYN = MPEMII(I)
C      DC 964 KKL = 1, MYN
C      IF (IMCLASS = MYPEMII(I, KKL)) 964, 970, 964
C      964 CONTINUE
C      NO MATCH FOUND
C      GO TO 954
C      965 CONTINUE
C      MATCH FOUND OR NO RESTRICTION ON THIS SYSTEM
C
C      CHECK FOR WEAPONS RESTRICTED TO NAVAL TARGETS
C
C      970 IF ((PKNAY(G) .GT. 0) .AND. (IAMNAVL .LT. 1)) 954, 973
C      REDUCE LOCAL WITH TEST FOR ASM (DISTAC(G,1))
C      IS PROX. AIRCRAFT HAS AN ASM
C      973 TARFACT = TARFAC * (1.0 - EXP(-ASM(G)))
C      REACH = RANGE(K) * HANGERIN(G)
C      IF ((ALERT(G) .EQ. 1) 930, 931
C      930 DELAY = ALERTULY(K) * 3 GO TO 932
C      931 DELAY = ALERTULY(K)
C      932 IF ((ICCLASS(K) .EQ. BOMBER) 950, 904
C      CALCULATE THRODUST AND PENCT FOR BOMBERS
C      930 PEROPT = -1.0
C      VCPT = -1.0
C      NCCRR = 1
C      IF (IMFUEL(J) .LT. 0.950) 956
C      956 REACH = HANGERDEF(K) * MANAFMUL(G)

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IF (IREFUEL(U) .EQ. 0) 9563, 9564
9503 REACH = (Z.U * HANGEREF(K) * HANFEMUL (U)) * RANGE(K) * RANGE(MUL (G))
9504 IF (IREMQUE(K) .GE. 1) 9505, 957
9505 REACHREACH=DISTG
COMMENT#INDEX 1 IS ICHRR#
957 DISTADN = 10000.
LSTCDM = 10000.
IF (PRNAV(G) .GT. 0.0) 9568, 9569
9508 ICM = LCR * KCDM = 2
CHLENGTH(2) = U.U
DISTAD(2) = DISTG(2) = DISTMINA
GO TO 9576
9509 IF (IREMQUE(K) .EQ. 0) 9566, 9567
9506 ICM = LCR = 1
CHLENGTH(1) = U.U
DISTA(1) = DISTG(1) = DISTMINA
GO TO 9576
9507 ICM = 3
LCR = KCDM
IF (IREFUEL(U)) 210, 210, 220
210 X1 = XLAT(G)
Y1 = XLONG(U)
GO TO 230
220 IR = IREFUEL(U)
X1 = RFLAT(IR)
Y1 = RFLONG(LH)
230 CONTINUE
DC 9575 1 = ICM, LCR
DISTAD(1)=DISTF(X1,Y1,ENTLAT(1),ENTLONG(1))*CHLENGTH(1)*DISTG(1)
IF (DISTAD(1).L.DISTAD(N)) 9572, 9573
9572 DISTADN = DISTAD(1)
9573 IF (DISTG(1) .LT. DISTCDN) 9574, 9575
9574 DISTCDN = DISTG(1)
9575 CONTINUE
9576 DC 953 1 = ICM, LCR
958 MGSURP = REACH-DISTAD(1)
959 IF (MGSURP .LT. 0) 953, 9019
9019 IF (IREMQUE(K) .EQ. 0) .CH. (PRNAV(G) .GT. 0.0) 9020, 9030
9020 DISTT(1)=MATE(1) = 0
DISTT(2) = MATE(2) = 0
DISTT(3) = DISTG(1)
AVAILC = MGSURP / (RANGEDEC(K) - 1.0)
GO TO 9091
9030 IF (DISTG(1) .GT. 1000.) 953, 9035
9035 IF (DISTG(1) .GT. DISTCDN + 1000.) 953, 9037
9037 IF (DISTAD(1) .GT. 1.3 * DISTADN) 953, 9040
C*** BEGIN CALCULATION OF DOUBT PENETRATION PROBABILITY
9040 AVAILC=MGSURP/(RANGEDEC(K)-1.0)
C PRINT ECCE,10,K,KH,RANGE(K),HEAD,MGSURP,AVAILC
DC 95 FMMAT(415,410.4)
IF (AVAILC.LT.0.0) 9030,9060
9030 TEMP=0.0
9060 DISTT(1)=DEFDIST(1) $ MATE(1)=IAIRPHE(1)/DISTT(1)
9060 DISTT(3) = CROSSDIST(1)
9060 DISTT(2)=DISTG(1)-DISTT(3) $ MATE(2)=AIRSUPP(1)
9091 DISTT(4) = DISTUR $ MATE(4) = AIRMCDM(1)

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IF ( IREQCUE(K) .LT. 1) 9093, 9095
9093 UISTT(4) = U.V
9095 RATE(3)=ATTMCONH(1)*T-RUEF*TAHFAC/UISTT(3)
UC 9100 LEG=1.4
9100 ATTR(LEG)=RATE(LEG)*UISTT(LEG)
RATE(4)=RATE(4)/U.V
C*** ALLLOCATE AVAILABLE LOW ALTITUDE RANGE (SELECT NEXT LEG TO ALLOC)
9001 FORMAT(12,3F10.4)
C PRINT 8001,(LEG,ATTR(LEG),RATE(LEG),DISTT(LEG),LEG=1.4)
9150 MATMX=C.O $ LEGMX=U
9200 UC 9220 LEG=1.4
IF RATE(LEG).GT.MATMX) 9210, 9220
9210 RATEX=RATE(LEG) $ LEGMX=LEG
9220 CONTINUE
IF (RATEX.EQ.U.V) 9242,9225
C*** ALLLOCATE TO LEG
9225 AVAILC=AVAILC-UISTT(LEGMX)
IF (AVAILC.GT.U.V) 9230, 9240
9230 RATE(LEGMX)=U.V
9240 ATTR(LEGMX)=HILCATTIR(1)*ATTR(LEGMX) $GO TO 9150
DISTC=DISTT(LEGMX)+AVAILC
ATTR(LEGMX)=(ATTR(LEGMX)/DISTT(LEGMX))*(DISTC+HILCATTIR(1)
I
-AVAILC)
C*** EVALUATE PENETRATION PROB GIVE WEIGHT .25 TO RECOVERY
9242 PT = EXP((-ATTR(1)-ATTR(2)-ATTR(3))*PENFAC)
PR = EXP((-ATTR(4)-8PENFAC)
TEMP=.75*PT+.25*PT*PR
C PRINT 8001,(LEG,ATTR(LEG),RATE(LEG),DISTT(LEG),LEG=1.4)
C PRINT 8001,PT,PR,TEMP
PENALT (1) = PT
9245 CONTINUE
CCC END FUNCTION PENF
IF (VCPT.GE.TEMP) 953,955
CSUBR GETDATA1 1JUN71 *****
955 VCPT=TEMP $ KCONH = 1 $ PENOPT = PT
953 CONTINUE
TRUDIST = DISTAD(KCONH)
PENOPT HOLDS BEST PEN AT THIS POINT
PEX(G) = PENOPT $ MORH(G) = KCONH
CALL PRNTALL(20)
IF (PEX(G).LT.U.V) 954,906
954 PEX(G)=C.OUCOU1
INACTIVE(G)=100 $ GO TO 923
C
C CALC MISSILE DIST AND TGA
904 TRUDIST = DISTMINX
C RESET LEAKAGE HERE
PEX(G) = (1.-RADPX)
IF (MISDEF .GT. C) 999, 998
999 PEX(G) = PEX(G) * (1.-PRIX)
998 CONTINUE
FLYTIME=TRUDIST/SPEED(K)
IF (INITSTRKEQ.1) 905,910
905 FLYTIME=(1.-CONMSL)*FLYTIME
GO TO 910
C

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C      CALC ROMBER TOA
9.6  FLYTIME=THRU(1)/SPEED(K)*REFTIME(G)
      IF (INITSTK=0) GO TO 9.10
9.7  PENTIME=(COMB*8+DISTD(KCORR)*CHLENUH(KCORR))/SPEED(K)
      IF (PENTIME+FI.FLYTIME) 9.8, 9.10
9.8  FLYTIME=TIME $ GO TO 9.10
9.10 TOA=3)*FLYTIME*DELAY
9.11 IF (THRU(1) < 0) MEACH=12.913
      MAKE IT PERMANENTLY INACTIVE
C      9.12 INACTIVE(G)=100 $ GO TO 9.23
C
C      COMPUTE SSSP OF TARGET COMPONENT BY WEAPON
C
C      9.13 CONTINUE
      UC 924 J = 1, M
      SK=5*(J)*2*YIELD(G)**(2./3.)
      SKK = SK
      IF (ICLASS(K) = EQ, ICOMBEN) 927, 928
928  IF (INWD(IIPAY(G)) .GT. 1) 929, 927
929  SKK = SK / INWD(IIPAY(G))
927  IF (1.3 - M(J)) 920, 921, 921
920  FN=3
      GO TO 922
921  FN=6
922  SD=FN*((ICEP(K)/1.172)**2*(TGTRAD/2.448)**2)
      STK1=-(SU/(SK+SD))*FN
      STK2=1. - (SU / (SKK + SD)) ** FN
      IF (PKNAV(G)) 1924, 1924, 1923
1923 STK = PKNAV(G)
      STK2 = STK
1924 KKJ = J
      STKX(G,KKJ) = STK
      STKX(G,KKJ) = STK2
924  CONTINUE
923  CALL TIMEFME(2)
C
C      LOAD OUTPUT ARRAYS
C
C      JGTX = ITGT
      MINKILX = MINKILL
      MAXKILX = MAXKILL
      MAXCQSA = MAXCOST
      MISUEX = MISUEF
      J = 0
C      LOAD ARRAYS FOR ALL ACTIVE GROUPS
      UC 807 I = 1, NG
      IF (INACTIVE(I)) 816, 816, 807
      GROUP ACTIVE ON THIS TARGET
C      816 J = J + 1
      IGR(J) = I
      TCAX(I) = TVAL(I)
      MGRX(I) = MGR(I)
      PEAX(I) = PEN(I)
      817 CONTINUE

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C      NACTV = J      RECONSTRUCT COMPLETE DATA FROM FILE DATA
C      CALL SETUP
C      ITC = 7
C      IF (NACTV) 823, 823, 808
C      IFROM = MAXG + 7
C      LIMIT = LSTMA - MAXG
C      DO 823 I = IFROM, LIMIT, MAXG
C      DO 823 K = 1, NACTV
C      J = IGA(K)
C      ITC = ITC + 1
C      STARRAY(ITC) = STARRAY(I+J)
C      820 CONTINUE      CONTINUE COMPACTING IF ONLY ONE HARDNESS COMPONENT
C      IF (N-1) 824, 824, 823
C      824 IFROM = 6 + NACTV + 7
C      ITC = 5 + NACTV + 7
C      DO 825 J = 1, NACTV
C      STARRAY(ITC+1) = STARRAY(IFROM+1)
C      825 CONTINUE
C      ITC = ITC + NACTV
C      823 LNEAT = ITC
C      CALL TIMEP(3)
C      OUTPUT DATA
C      OPEN NEW FILE IF FIRST TARGET
C      IF (FIRST) 1000, 1100, 1000
C      1000 FIRST = -1000
C      NGRAT = LNEAT
C      NGRUSE = NGRUSE + 1
C      NUMSC = NGRUSE + NGRALOC
C      ZACCOE(81001, NGRNAM) INTINDT, NUMSC
C      1001 FORMAT(A6, I2)
C      IF (NUMSC = MININT) 1020, 1020, 1010
C      1010 NT = (LIMITNL / (NWDST * NSCTRK)) + 1
C      NEW SCRATCH FILE MUST BE ALLOCATED
C      CALL ALLOCATE(LUNDISK, NGRNAM, NT)
C      OPEN FILE PREVIOUSLY ALLOCATED TO DISK
C      1020 LUNDISK = 0
C      WRITE(IUNIT, IUC1) NGRUSE, NGRNAM
C      1021 FORMAT(//, INITIATING WEAPON-TARGET INTERACTION FILE NUMBER *, I2,
C      1 * NAMED *, A6)
C      CALL SEEK(NGRNAM, 0)
C      GO TO 1200
C      CHECK LENGTH OF FILE
C      1110 NGRATENOMAT = LNEAT / NWDST * NSCTRK
C      IF (NGRAT - LUSFUL) 1200, 1110, 1110
C      1110 CALL DECF(NGRNAM)
C      LASTGT(NGRUSE) = JGTGT - 1
C      GO TO 1000
C      WRITE DATA FOR THIS TARGET ON FILE
C      1200 CALL WRITE(NGRNAM, STARRAY(1), STARRAY(LNEAT))
C      CALL TIMEP(4)
C      PAUSE ASSIGNMENT PROCESSING

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LOCNO# = 0
1370 CALL DREAD(NC#NAM,STARAY(1), STARRAY(LSTMAX))
GO TO 1310
C
C      EOF/EST ERROR ON LAST WRITE
9110 NTIMES = 0
IITYP = 6H EOF
WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
9101 FORMAT(/10X,15(1H*),1X,A6,*, ERROR ON WEAPON-TARGET INTERACTION FI
1LE NO. *,12,*, NAMED *,A8)
WRITE(IWRIT,9102) NTIMES*
9102 FORMAT(1X,13,*, HEREAUS WILL BE ATTEMPTED*)
GO TO 9300
C      PARITY ERROR ON LAST WRITE
9211 NTIMES#C
IITYP = 6H PARITY
WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
WRITE(IWRIT,9102) NTIMES*
C      ATTEMPT REWRITE
9300 NTIMES = NTIMES + 1
IF (NTIMES = NTIMES#) 9310, 9310, 9400
C      TRY AGAIN
9310 CALL SEEK(NC#NAM, LOCNO#)
CALL WRITECK(NC#NAM, STARRAY(1), STARRAY(LNEXT))
9320 GO TO (9320, 903, 9300, 9300), LSTATUS(NC#NAM) + 2
C      IRRECOVERABLE ERROR
9400 WRITE(IWRIT,9401)
WRITE(ICOMM,9401)
9401 FORMAT(/*, IRRECOVERABLE I/O ERROR ON DISK. JOB TERMINATED*)
CALL ABORT
STOP
C
C      SECOND AND LATER PASSES
1000 NTIMES = 0
C      CHECK FOR COMPLETION OF LAST READ
10010 GO TO (10010,10100,10300,10400), LSTATUS(NC#NAM) + 2
C      ALL OK - CHECK FOR READ LENGTH ERROR
10100 ITEST = LOCATE(NC#NAM)
NREAD = ITEST - LOCNO#
NEXPECT = (LNEXT - 1) / NWDSCY + 1
IF (NEXPECT - NREAD) 10200, 10600, 10200
C      READ LENGTH ERROR
10200 WRITE(IWRIT,10201) NEXPECT, NREAD
10201 FORMAT(/10X,15(1H*),*, HEAD LENGTH ERROR ON WEAPON-TARGET FILE. E
EXPECTED *,15,*, SECTORS. GOT *,15)
IITYP = 6H LENGTH
GO TO 10410
C      UNEXPECTED END OF FILE
10300 IITYP = 6H EOF
GO TO 10410
C      PARITY ERROR
10400 IITYP = 6H PARITY
10410 WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
WRITE(IWRIT,10411) NTIMES*
10411 FORMAT(1X,13,*, HEREAUS WILL BE ATTEMPTED*)

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10500 NTIMES = NTIMES + 1
      IF (NTIMES - NTIMESR) 10510, 10510, 9400
      ATTEMPT TO REHEAD DATA
10510 CALL SEEKING(NAM, LOC=0)
      CALL DHEAD(NONAM, STARRAY(1), STARRAY(LSTMAX))
      GO TO 10010
C      INPUT ALL OK
10600 LOCNO = ITEST
      CALL TIME(4)
C      RECONSTRUCT DATA FROM INPUT FILE DATA
      CALL RECON
      IF (JTG1 = LASTGT(NCUSE)) 1370, 10700, 10700
C      START NEXT FILE
10700 IF (JTG1 - NIGTS) 10800, 1360, 1360
10800 NCUSE = NCUSE + 1
      GO TO 1365
C
C      INITIALIZING ENTRY FOR GETDATA
C      ENTRY INITGET
C
C      COMPUTE ENTRIES IN SMAT ARRAY FOR GROUP ATTRIBUTE AND FAILURE
C      MODES DEL, CC, AND HEL. THESE ARE DIFFERENT FOR MIRV AND NON MIRV
C      SYSTEMS.
C
      DC 320 KSMAT = 1, 3
      STEMP = 1.0
      DO 310 I = 1, NAT
        DC 310 I = 1, NAT
        STEMP = STEMP - SMAT(1, KSMAT)
        SMACHIRV(KSMAT) = SMAT(2, KSMAT) + (STEMP * FACMIRV)
        PRECOMPUTE CORRELATOR ASSOCIATED DATA
C
        DC 661 I = 3, NCORR
        CCSCOR(I) = COS(PCLAT(I)/57.2957795)
        AA = RPLAT(I) - PCLAT(I)
        DPLAT(I) = AA
        BB = DELONG(RPLONG(I), PCLONG(I))
        DPLONG(I) = BB
        BB = BB + CCSCOR(I)
        CORLN(I) = SINT(BB * DB * DB)
        TUEFDIST(I) = C.
        TATTRONE(I) = C.
        DC 663 L = 1, LMAX
        TUEFDIST(I) = TUEFDIST(I) + DEFDIST(I, L)
        DO TATTRPRE(I) = TATTRPRE(I) + ATTRPRE(I, L)
        661 CONTINUE
C
C      RESET UNACCEPTABLE RANGEDEC
C      ZERO TVALICA FOR TEST IN MULCON AT END OF PASS 1
      DC 682 I = 1, NG
        TVALICA(I) = C.
        K = ITYPE(I)
        IF (RANGEDEC(K) - LT. 1.1) 681, 682
        681 RANGEDEC(K) = 1.1
        682 CONTINUE
      FIRST = 100
      NCUSE = C
      NCWAT = C

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FIN5.5

MAX3 = MGROUP
LUSFUL = LINTRNL - 2 * LSTHAX
RETURN
END

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PAGE NO. 16

306000
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IDENT SETDATA

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

GE10DATA
INITGET
MASTER
FILES
FILESEL
MYLABEL
IIP
MYIDENT
MOPRINT
T=GRU
LCCFIL
MPNREG
MPNTYPE
PAYLOAD
MPNGHP
PLANITYPE
REF
CORRCHAR
DYNAMIC
MADWPN
CONTROL
FLAGST
CIRYCU
CIRYKST
RESTRICT
RANGE
PKNAVAL
FIXED
FIXEDASS
MACHINE
DEFENSE
MULADJ
PRINSED
SMAT
PAYOFF
PEN
ALCCIN
INTFILE
DNCS102

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00014
00010
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00001
00001
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00003
00024
01560
00620
04331
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01132
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14726
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00071
00226
01652
01327
01130
00310
00120
00015
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00140
00015
00100

EXTERNAL SYMBOLS
G10100
Q300000
Q207111
Q1005100
THEND
Q8080PS
Q8081CT
LSTATUS
LOCATE
TIME
RUARRAY
DELLONG
TITLE

5.4TS GETDATA

DISTF
PNTALL
SETUP
ALLOCATE
SEEK
DESF
DWRITE
SKIP
RUNCMO
NUMGET
WRITECK
DHEAD
ACHT
RECON
XNINUF
SURTF
EXPF
COSF
DEC.
STM.
ENC.
QNSINGL.

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ED

0

PAGE NO.

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5-+TS	GETDATA	11/29/71	ED	0	PAGE NO.	19
P03254	AI	0527	02742			
P03255	AA	02725				
X00032	ASORT	02505				
C00360	ALERTCLY	00762				
X00021	ALLOCATE	02041				
C00012	ALOCGRP					
C00001	ALOCIT					
C00006	ALOCIT2					
C00006	ALOCISR					
P00077	ATTR	01327	01341	01342	01347	
P00003	ATTRAD	01272				
C00100	ATTRCD	00515				
C00416	ATTRCRK	00514				
C00776	ATTRPRE	01247				
C00454	ATTRSUPF	02765				
P03256	AVAILCW	01243				
P03257	B1	01177				
C00002	HASFILE	01320	01332	01337		
P03260	BB	00525				
P03501	BEGIN	02737	02741	02743		
C00006	HPENFAC	03204				
C00000	CC	01343				
C00000	SCREL					
C00120	CEP	01560				
C00001	CLOSE					
C00004	CNTRYLCZ					
C00004	CNTRYLOC					
P03031	CNVRT1.	02022	02055	02172	02322	02371
		02372	02404	02422	02434	02570
		02571				
		01460				
		00532	02747			
		01445				
C00002	CORBOMB					
C00006	CORLN					
C00001	CORMSL					
C00010	CORR					
C00013	CORR2					
C00050	COSCCR					
X00037	COSF					
C00045	COST					
P03261	COUNT.	00532	02723	02737	02740	
		02721				
		00511				
		01722				
		00534				
		01143				
		01045				
		00541				
		00475				
P03262	CROST	00512	00564	01115	01511	01721
P00173	CRFMT.	01757	01760	02670	02761	03002
C00322	CRLNGTH	00536	00537	00540	01514	03001
P00041	CROSSDST	01276	02027	02201	02376	02505
C00037	CTMULT	01045	01057	01126	01463	02553
C00000	CTRYCC	01236				
C00000	CTRYCK					
X00040	DEC.					
C00044	DEFDIST					
C00550	DEFRANGE					
P03263	DELAY	00763	01474			
X00014	DELLONG	00522				
C00007	DELTVAL					
X00023	DEOF	02075				

S.MYS

GETDATA

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PAGE NO.

20

C00002 DESIG
C00002 DESIG2
P00001 DICT.

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P00107 DISTT

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5.4TS GETDATA

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P02376	02330										
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P02505	02477										
P02553	02542										
P02574	02562										
P02605	02575										
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GETDATA

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PU3315	KKK	0005	03172						
PU3316	KKL	00717	00726	03102					
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CU0360	KORSTYLE								
PU3317	KH	00553							
PU3320	KSHAT	02657	02677	02705	02707	03117			
PU3321	L	02753	03134						
PU0151	LASTOT	04103	02541						
CU0016	LAW								
PU3322	LCOR	01043	01056	01114	01174	01374			
CU0303	LDN	00164							
PU3323	LEG	01267	01267	01302	01310	01313			
PU3324	LEGMA	01300	01311	01317	01324	01331			
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CU0001	LINTFL								
CU0077	LINTHNL	00034	02034	03025	03025	03025			
PU3326	LIFLAG	00010	02755	02755					
CU0131	LMAX	CU0131	01777	02010	02066	02105	02105	02447	02532
CU01517	LNEXT	02532							
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PU3327	LOCORR	00414	02047	02346	02445	02531	02613	02627	
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CU0137	LTG	00164	00434						
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CU0036	MAXCOSZ	00460	00460						
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CU0035	MAXKILZ	00456							
CU0125	MAXMIRV								
CU0126	MAXNP								
CU0002	MDESIG								
CU0430	MG								
CU0430	MGROUP	03021	03022						
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CU0120	MINKILX	01042							
CU0034	MINKILZ	00454							
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CU0033	MISDEZ	00444							
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PU0153	MPAYLOAD								

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C00009	NPROCDEF	02015	02015			
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PC1656	MS00014.	U1671	
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PC2762	MS00024.	U2767	
PC3003	MS00025.	U3015	
PC3365	X1	U1375	U1106
PC3365	XDEG		U1124
PC3365	XMINCF	U2146	
PC3365	XNUP		
PC3365	Y1	U1077	U1110
PC3365	YIELD	U1524	U1524

U1340 SYMBCL5

5-7S INITIALC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

INITIALC

MASTER
222
RANGE
RESTRICT
FLAGST
CITYMST
MACHINE
MPHGRP

EXTERNAL SYMBOLS

QJQ1004C
QJQDICT.

IDENT

00203
00064
00027
00464
01130
01327
00071
01652
00004
04231

INITIALC

11/29/71

ED 0

PAGE NO.

3

S-ITS	INITIALC	11/29/71	ED	0	PAGE NO.	4
CO*133	ALERTHEST					
PO0170	BEGIN*	00171				
PO0177	COUNT*	00016				
CO0000	CTRYCK	00121				
PO0001	DICT*	00006				
PO0172	ENDING.	00007				
PO0000	EXIT.	00173				
CO3720	EXPASM					
CO0000	FLAGCK	00106				
PO0003	FORMAT.	00064				
PO0000	I	00012				
CO1750	IALEKT	00017				
CO0002	ICSMH	00132				
CO0001	IDENTAC					
CO1300	IMDATE					
PO0134	IN000C2*	00103				
PO0135	IN000C3.	00116				
PO0004	INITALC	00004				
PO0170	INITIAL.	00007				
CO1750	IGTHER					
CO2570	IPAY					
CO0003	IPUNCH	00133				
CO0000	IREAD	00127				
CO2570	IREFUEL					
CO1130	IREF					
CO0002	ISIDE					
CJ1440	ITYPE					
CO0001	IWRIT	00131				
PO0020	.10					
PO0036	.20					
PO0055	.30					
PO0071	.40					
PO0104	.50					
PO0117	.60					
PO0123	.70					
PO0003	*.100C00	00071				
CO0011	JATTHH					
PO0001	JJ	00075				
CO5775	LA	00021				
CO1325	PAXMIRV	00044				
CO1326	PAXNP	00061				
CO4230	MG	00062				
CO4230	MGRUP					
CO1323	MULTARG	00026				
CO8463	MXATTRIB	00057				
CO0001	MYMIRV	00010				
CO0000	MYMIRV	00050				
CO0121	MYPERM11					
CO0023	NALERT	00072				
CO0010	NASWTYPE					
CO0010	NENDRY					
CO0024	NGLASS					
CO0020	NNTRY					
CO0021	NCOMPLEX	00113				
		00113				
		00123				
		00021				
		00044				
		00061				
		00062				
		00026				
		00057				
		00010				
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		00101				
		00111				
		00144				

CU0004	ACORR					
CU0025	ACORTYPE					
CU0005	NDPEN					
CU0013	N6					
CU0013	NRGRP					
CU0023	NOTHER					
CU0015	NPAYLOAD					
CU0051	NRPERIT					
CU0006	NRECOVER	00052				
CU0007	NREF					
CU0011	NREG					
CU0003	NRPT					
CU0020	NTANKERS					
CU0024	NIGTS					
CU0022	NICT	00053				
CU0014	NICTBASE					
CU0012	NITYE					
CU0017	NMDTYPE					
CU0000	NMPNS					
CU0013	PU00000					
CU0012	PU00010	00105	00120			
CU0021	PU00040	00056				
CU0002	PU00060	00005				
CU0020	PU00070	00037				
CU0000	PU00080	00036				
CU0010	PU00090	00033				
CU0010	PU00100	00035				
CU0010	PU00110					
CU0010	PU00120					
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CU0010	PU01990					
CU0010	PU02000					
CU0010	PU02010					
CU0010	PU02020					
CU0010	PU02030					
CU0010						

```

SUBROUTINE LOCRES1
  LOGRES7 LJUN71 *****
C THIS SUBROUTINE READS AND INTERPRETS THE COUNTRY LOCATION
C CODE RESTRICTION INPUT DATA
C MASTER LJUN71 *****
C USED BY ALLOCATE, MULLON, PREMIUMS, STALL, MAD, MADOUT, PRNTINQ,
C RESVAL, AND DEFALOC
COMMON/MASTER/IMDATE,IDENTQC,ISIDE,NKPT,NCORR,NUPET,WRECOVER
1,KREF,NBNDT,NREG,NTYPE,NRGROUP,NTGBASE,NPAYLOAD,NASMTYPE,NMRDTYPE
2,TANKBAS,COMPLEX,CLASS,NALERI,NTUTS,NECNTYPE,NCENTRY
EQUIVALENCE(NRGROUPANG)(NALERI,NOTLER)
CEND *****
C CUSE CTAYCO LJUN71 *****
C COMMON/CTAYCO/CTAYCO(150)
C TYPE INTEGER CTAYCO
C CEND *****
C CUSE CTAYCO LJUN71 *****
COMMON/CTAYST/CTAYSTCK(150,203)
TYPE LOGICAL CTAYST
C CEND *****
C CUSE MACHINE LJUN71 *****
COMMON /MACHINE/ IHEAD, I=RTI, ICOMM, IPUNCH
C MACHINE *****
C C E ICOLUMPY LJUN71 *****
C THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
C SINCE IT REDEFINES COMMON /MADWPN/. IT SHOULD NEVER BE USED IN
C CONJUNCTION WITH COMMON /MADWPN/.
COMMON /MADWPN/ INPUT(10), NVARS NAMES(40), INVALU(2140),
1 INDEX(140), INDEXZ(40), INDEXF(40), MCRC, MYNAME(100),
2 MYFORM(100), MYTYPE(100), MYVAL(100), FVAL(100),
3 MYSCIC(100), ADEFLT, FILLER(5560)
C EQUIVALENCE (MYVAL, FVAL)
C ICOLUMPY *****
C DIMENSION INC(35)
EQUIVALENCE(INC, INPUT)
TYPE LOGICAL SET
C *LITE(I=RTI, 1)
1 FORMAT(/** USER INPUT PARAMETER CARDS FOR OPTION LOCRES1 **)

```


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FTNS.5

```

WRITE (IWRIT, 1011) (UTRYCD(I), J = 1, ISTART, IEND)
1011 FORMAT(//, 35(1A, 2X))
DO 1040 I = 1, NGRoup
  KKK = 1
  DO 1020 J = 1, ISTART, IEND
    IF (UTRYCD(J, KKK)) 1020, 1030
  1020 CONTINUE
  GO TO 1040
  1030 WRITE(IWRIT, 1011) I, (UTRYCD(J, KKK), J = 1, ISTART, IEND)
  1031 FORMAT(1X, I, 1A, 35(2A, 11))
  1040 CONTINUE
  IF (IEND - NGRoup) 1010, 1050, 1050
  1050 RETURN
      END

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P-ITS LOCRESI

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

LOCRESI
MASTER
CTRYCU
CTRYDST
MACHINE
MADWPN

EXTERNAL SYMBOLS

TREND.
QBUIJAC
QBUCUAC
QVEVALL
QBUJCT.
NUMBER
TITLE
TSM.
DEC.
STM.
ENC.
QBUCUT4
SLC.
SLI.
QNSINGL.

IDENT

JOBS7
-0157
JOJ27
00226
V1052
J0004
14251

LOCRESI

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CU026 NCNTRY	CU270	CU0270	CU0377	CU0405	CU0405	CU0445	CU0447	CU0447	CU0552	CU0552
CU021 NCNPLEX										
CU004 NC3RH										
CU025 NCRTYPE										
CU1360 NDEFLT										
CU005 NDPEN										
CU013 NG										
CU013 NGRQUP			CU0547	CU0547						
CU023 NCTHER										
CU015 PAYLOAD										
CU006 NRECOVER										
CU007 NREF										
CU011 NREG										
CU003 NRTP										
CU020 NTANKREAS										
CU024 NTGTS										
CU014 NTOTBASE										
CU012 NTYPE										
CU006 NUMGET	CU232									
CU012 NVARS										
CU017 NMDTYPE										
PU0563 PU000C00	CU505									
PU0575 PU030100	CU577									
XU0003 Q3000C00	CU417	CU0506	CU0301	CU0422						
XU0002 Q3010C00	CU260	CU0175								
XU0005 Q8001C00	CU000	CU0160								
XU0014 Q8002014	CU534									
XU0004 Q900EVALL	CU531									
XU0017 QNSINGL	CU556									
PU0555 SET	CU261	CU0302	CU0420							
XU0016 SLI	CU204									
XU0015 SLC	CU222									
XU0012 STM	CU165	CU0213	CU0244	CU0406	CU0432	CU0453	CU0453	CU0520	CU0543	
XU0001 THEN0	CU170	CU0207	CU0225	CU0251	CU0320	CU0361	CU0471	CU0543		
PU0300 TS000C01	CU271									
PU0467 TS000C06	CU461									
PU0547 TS000C07	CU476									
PU0513 TS00010	CU504									
PU0541 TS00011	CU527									
XU0010 TSH	CU174									
PU0567 UP000C00	CU267	CU0311	CU0316	CU0326	CU0352	CU0357	CU0475	CU0546	CU0563	
PU0601 UP000C01	CU570	CU0571	CU0572	CU0574	CU0574	CU0512	CU0575	CU0602	CU0603	
PU0610 UP000C02	CU324	CU0335	CU0460	CU0466	CU0503	CU0512	CU0575	CU0602	CU0603	
PU0621 UP000C03	CU604	CU0606	CU0606	CU0613	CU0617	CU0617	CU0626	CU0636		
PU0630 UP000C04	CU401	CU0622	CU0623	CU0624	CU0626	CU0626	CU0636			
PU0674 WS000C01	CU501	CU0631	CU0632	CU0633	CU0635	CU0635				
PU0312 WS000C02	CU277									
PU0330 WS000C03	CU317									
PU0353 WS000C04	CU363									
PU0366 WS000C05	CU360									
PU0462 WS000C06	CU426									
PU0477 WS000C07	CU470	CU0470	CU0550							

5.4TS LOGRESI

PUU505 WS00010. 00514 00514
PUU530 WS00011. 00542 00542
00234 SYMBOLS

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ED

0

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FTn5.5

```

SUBROUTINE MIRVST
  CENUG  MIRVST  LJUN71
  C
  C THIS SUBROUTINE READS AND INTERPRETS THE MIRV SYSTEM RESTRICTION
  C CARDS. THE DATA ON THE RESTRICTED SYSTEMS IS PLACED IN COMMON
  C /RESTRICT/FOR USE BY SUBROUTINE GETDATA.
  C
  C RESTRICT  LJUN71 *****
  C
  C COMMON/RESTRICT/MYMINV, MYMINV(40), NPERMIT(40), MYPERMIT(40,16),
  C TMDDEF(40), MULTARG(40), MAXMIRV, MAXNP
  C
  C TYPE LOGICAL TMDDEF, MULTARG
  C
  C RESTRICT *****
  C ICDUMMY  LJUN71 *****
  C
  C THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C SINCE IT REDEFINES COMMON /MADPN/, IT SHOULD NEVER BE USED IN
  C CONJUNCTION WITH COMMON /MADPN/.
  C
  C COMMON /MADPN/ INPUT(10), NVAR, NAMES(40), INVAL(2,40),
  C INDEX(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
  C MYFCRM(100), MYTYPE(100), MYVAL(100), FVAL(100),
  C MYGCTG(100), NDEFLT, FILLER(5500)
  C
  C EQUIVALENCE (MYVAL, FVAL)
  C
  C ICDUMMY *****
  C
  C DATA (MAXMIRV = 40), (MAXNP = 16), (MYMINV = 0), (NPERMIT = 40(0))
  C
  C MAXMIRV  MAXIMUM NUMBER OF DISTINCT MIRV NUMBERS TO BE RESTRICTED
  C MAXNP    MAXIMUM NUMBER OF PERMITTED CLASSES PER SYSTEM
  C MYMINV   NUMBER OF MIRV SYSTEMS IN LIST
  C MYMIRV   MIRV NUMBER OF SYSTEM
  C NPERMIT  NUMBER OF PERMITTED CLASSES FOR THIS SYSTEM
  C MYPERMIT  ROLLEITH NAMES OF PERMITTED CLASSES
  C TMDDEF   TRUE IF DEFENDED TARGETS ARE A PERMITTED TYPE
  C MULTARG  TRUE IF MULTIPLE TARGETS ARE A PERMITTED TYPE
  C
  C DIMENSION IDUM(9)
  C EQUIVALENCE (IDUM, INPUT)
  C
  C DC 5 1 = 1, MAXMIRV
  C TMDDEF(1) = 0
  C S MULTARG(1) = 0
  C
  C PRINT 1
  C 1 FORMAT(/= INPUT PARAMETER CARDS=)
  C 10 READ 100, IDUM
  C 100 FORMAT(A8,A2,7(A8,2X))
  C PRINT 101, IDUM
  C 101 FORMAT(/1X,A8,A2,7(A8,2X))
  C 101 SYST = NUMGET(IDUM(1), 10)
  C IF (ISYST) 200, 200, 40

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PAGE NO.

2

```

20 DC 30 I = 1, MYNIRV
   J = 1
   IF (ISTAT - MYNIRV(I)) 30, 40, 30
30 CONTINUE
   IF (MYNIRV - LF. MAXNIRV) 35, 10
35 MYNIRV = MYNIRV + 1
   J = MYNIRV
   MYNIRV(J) = ISTAT
   IF (IMERE * NPERMIT(J) * 1
   IF (IMERE * ST. MAXNP) 110, 45
45 DC 100 I = 3, 9
   ITEST = IJUM(I)
   IF (ITEST * EQ. RM ) 100, 50
50 IF (ITEST * EQ. RMDEFENDE) 60, 70
60 RMDEF(J) = 1
   GO TO 100
70 IF (ITEST * EQ. RMMULTIPLE) 80, 90
80 MULTARG(J) = 1
   GO TO 100
90 MYPERMIT(J, IMERE) = ITEST
   IF (IMERE * IMERE * 1
   IF (IMERE * ST. MAXNP) 110, 100
100 CONTINUE
110 NPERMIT(J) = IMERE - 1
   GO TO 10
C
200 PRINT 201
201 FORMAT(27H01NIRV PERMITTED CLASSES//)
   DC 240 I = 1, MYNIRV
   IJUM(1) = IJUM(2) = RM
   NPRINT = NPERMIT(1)
   IF (RMDEF(1)) 210, 240
210 IJUM(1) = RMDEFENDE
220 IF (MULTARG(1)) 230, 240
230 IJUM(2) = RMMULTIPLE
240 PRINT 241, MYNIRV(I), (MYPERMIT(I, J), J = 1, NPRINT)
   I = IJUM(1), IJUM(2)
241 FORMAT(1X, I4, 5A, 11(A8, 2X) / (10X, 11(A8, 2X)))
   RETURN
   END

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DATA MINORS

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P00412	BEGIN.	JJ413	00330	00337	00163	00166	00213	00251	00267	00275
P00350	CNVR11.	JJ321	00105							
P00420	CGUNT.	00104								
P00403	CRFMT.	00123	00135	00266	00344	00134	00137	00143	00146	00262
P00001	DICT.	00075	00117	00125	00131					
		00265	00315	00341						
P00414	ENDING.	00076	00346	00412						
P00400	EXIT.	JJ415								
C01361	FILLER									
P00403	FORMAT.	00212	00265							
C01450	FVAL									
P00123	GG00000.	JJ115								
P00135	GG00001.	00123								
P00147	GG00002.	00135								
P00266	GG00003.	00260								
PLC342	GG00004.	00313								
P00421	I	00100	00105	00155	00160	00163	00213	00251	00267	00275
		00305	00317	00342	00360					
C00400	IDUM	00312	00144	00151	00216	00216	00273	00304	00304	00312
P00422	IMERE	00312	00335	00335	00337					
P00351	IN00003.	00205	00207	00243	00244	00246	00254	00254	00254	00254
P00352	IN00004.	00241	00365	00376	00410					
C00203	INDEX1	00326	00353	00363	00366					
C00253	INDEX2									
C00323	INDEX3									
P00412	INITIAL.	00076								
C00300	INPUT									
C00404	INVALU									
P00423	ISYST	00152	00163	00200						
P00424	ITEST	00217	00222	00231	00240					
P00123	.10	00173	00173	00257						
P00251	.100	00221	00230	00237						
P00254	.110	00211	00250							
P00154	.20									
P00260	.200	00153	00153							
P00303	.210	00302								
P00305	.220	00302								
P00311	.230	00310								
P00313	.240	00310								
P00166	.30	00165								
P00174	.35	00165								
P00202	.40	00210								
P00212	.45	00220								
P00222	.50									
P00111	.5									
P00224	.60									
P00231	.70	00223								
P00233	.80									
P00240	.90	00232								
P00403	.1	00120								
P00434	.130000	00220								
P00412	.100	00126								
P00435	.130001	00223								

P00036	..100002	00232							
P00047	..100003	00272							
P00050	..100004	00303							
P00051	..100005	00311							
P00022	..101	00140							
P00037	..201	00263							
P00052	..241	00316							
P00025	J	00161							
C01325	MAXMIRV	00003							
C01326	MAXNP	00207							
P00073	MIRVST	00073							
C00373	AGRE	00113							
C01323	MULTARG	00236							
C00540	MYFORM	00307							
C01414	MYGIC								
C00001	MYMIRV	00164							
C00374	MYNAME	00170							
C00000	MYNMIRV	00170							
C00121	MYPERMIT	00241							
C00704	MYTYPE								
C01050	MYVAL								
C00013	NAMES								
C01360	NDEFLT								
C00051	APERMIT								
P00426	NPRINT	00277							
X00005	NUMGET	00147							
C00012	NVARS								
P00353	P0000000	00355							
P00365	P0000100	00370							
X00003	03000040	00300							
X00001	03010040	00107							
X00004	0800100	00000							
X00012	0NSINGL	00347							
X00011	SLI	00130							
X00010	SLC	00142							
X00007	STH	00116							
C01321	TBMDEF	00110							
X00002	TEND.	00121							
P00115	T5000001	00103							
P00170	T5000002	00157							
P00344	T5000004	00271							
P00333	T5000005	00325							
X00006	TSH	00124							
P00357	UP000000	00101							
P00372	UP000001	00364							
P00003	UP000002	00162							
P00100	W5000001	00206							
P00160	W5000002	00171							
P00015	W5000003	00253							
P00072	W5000004	00345							
P00326	W5000005	00334							
	00146 SYMBOLS								

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SUBROUTINE MULCON 1JUN71 *****
C
DATA (NUNMAX=30)
DATA (NATMAX=10)
DATA (NAT=6)
DATA (NATMAX = 2)
NUNMAX MAX NO OF WEAPONS PER TARGET
NATMAX MAX NO OF ARRIVAL BINS
NAT NUMBER OF ATTRIBUTES
NUNMAX NO OF HANDNESS COMPONENTS
MASTER 1JUN71 *****
USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADDUT, PRNTNGM,
RESVAL, AND DEFALOC
C
COMMON/MASTER/IMDATE,IDENTING,ISIDE,INRTPT,NCORR,NUPEN,NRECCVER
1INREF,NENDRY,NNEGTYPE,NRGCP,NICTBASE,NPAYLOAD,NASMTYPE,NMHDTYPE
2NTANKBAS,NCOMPLEX,NCLASS,NALERT,NIGTS,NCCRTYPE,NCNTRY
EQUIVALENCE(NMGCP,NG)(NALERT,NCYMER)
MASTER *****
EQUIVALENCE(STKIN,INSTK)
TYPE INTEGER STKIN
ISIDE SIDE
IMDATE MONTH/DATE
IDENTNG DATA INPUT IDENTIFICATION NUMBER
NRTPT NUMBER OF ROUTE POINTS
NCORR NUMBER OF CORRIDORS
NUPEN NUMBER OF DEPENETRATION CORRIDORS
NRECOVER NUMBER OF RECOVERY POINTS
NKEF NUMBER OF REFUEL POINTS
NENDRY NUMBER OF BOUNDARY POINTS
NKEG NUMBER OF REGIONS
NTYPE NUMBER OF WEAPON TYPES
NRGCP NUMBER OF WEAPON GROUPS
NICTBASE NUMBER OF BASES, TOTAL
NPAYLOAD NUMBER OF ENTRIES IN PAYLOAD INDEX TABLE
NASMTYPE NUMBER OF ASM TYPES
NMDTYPE NUMBER OF WARHEAD TYPES
NTANKBAS NUMBER OF TANKER BASES
NCOMPLEX NUMBER OF COMPLEX TARGETS
NCLASS NUMBER OF WEAPON CLASSES(PRESENTLY 2)
NALERT NUMBER OF ALERT CONDITIONS(PRESENTLY 2)
NIGTS NUMBER OF TARGETS
NCCRTYPE NUMBER OF CORRIDOR TYPES
NCNTRY NUMBER OF COUNTRY LOCATION CODES
INSTK POINTS TO ACCOUT INPUT TAPE
*****
COMMON/FILES/INFILE(2),BASFILE(2),MSLTIME(2),ALOC(2),
1 TMAPALOC(2),ALOCGRP(2),STKRPIL(2),EVENTAPE, PLANTAPE
C
TYPE INTEGER INFILE, BASFILE, ALOC(2), IMPALOC,
1 ALOCGRP, STKRPIL, EVENTAPE, PLANTAPE, ALOC(2)
C
COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFORM,
1 INSEC, INTIME, INLNUTW, INCOMM(5)
C

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C
COMMON/MTLABEL/ MYFORMT, MYSECH, MYLNGTH, MYCOMM(S)
COMMON/ITP/ITP
COMMON/PIIDENT/ PIIDENT
COMMON/ACPRINT/ ACPRINT
COMMON/IGRD/IGRD
EQUIVALENCE (I*GRD, I*WORD)
C
COMMON/LCCFIL/MPNTGT,ALCCT1,ITPMSL
C
C TYPE INTEGER MPNTGT, ALCCT1
C
C DATA (ALCCT1 = -3) * (ITPMSL = 1)
C
EQUIVALENCE (ALCCT2, ALCCTAR(1))
C
C TAPES *****
C TYPE INTEGER TOTIN, TOTOUT *****
C *****
C MPNTGT IJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCH, RESVAL, DEFALCC *****
C
COMMON/MPNREG/CCREL(2J)
DIMENSION CC(2J)
EQUIVALENCE (CCREL(1),CC(1))
MPNREG *****
C
COMMON/MPNREG/CCREL(MREG)
MREG=20 MAXIMUM NUMBER OF REGIONS
CCREL COMMAND AND CONTROL RELIABILITY
C *****
C MPNTYPE IJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCH, RESVAL, DEFALCC *****
C
COMMON/MPNTYPE/MANGE(8U),CEP(8U),SPEED(8U),ALERTDLY(8U)
1,ALERTDLY(8U),MANGEDEC(8U),ICLASS(8U),MANGERE(8U),REL(8U)
2,ICLASS(8U), IPENHQUE(8U)
TYPE REAL NALH(ULY)
MPNTYPE *****
C
COMMON/MPNTYPE/MANGE(MTYPE),CEP(MTYPE),SPEED(MTYPE)
1,ALERTDLY(MTYPE),NALH(ULY(MTYPE),MANGEDEC(MTYPE),ICLASS(MTYPE)
2,MANGERE(MTYPE),REL(MTYPE),ICLASS(MTYPE),IPENHQUE(MTYPE)
C
C MTYPE = 84 MAXIMUM NUMBER OF WEAPON TYPES
C
C RANGE WEAPON RANGE (NAUTICAL MILES)
C CEP WEAPON CEP (AVERAGED)
C SPEED WEAPON SPEED (KNOTS)
C ALERTDLY WEAPON DELAY WHEN ON ALERT STATUS
C NALH(ULY WEAPON DELAY WHEN NOT ON ALERT STATUS
C MANGEDEC WEAPON RANGE DECREMENT FOR LOW ALTITUDE FLIGHT
C ICLASS WEAPON CLASS INDEX (1 FOR MISSILES, 2 FOR BOMBERS)
C MANGERE WEAPON RANGE WITH REFUELING (% MILES)
C REL WEAPON RELIABILITY
C ICHCODE EQUALS ONE FOR RECOVERY
C IPENHQUE EQUALS ZERO FOR TACTICAL AIR
C *****
C PAYLOAD IJUNT1 *****
CUSE

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 10000
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 52000
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 58000
 59000
 60000
 61000
 62000
 63000
 64000
 65000


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C      NEFTIME      TIME TO REFUEL BOMBER FROM GROUP G
C      DISTAC      DISTANCE FROM GROUP CENTROID TO CORRUPT ENTRY
CUSE   CONTROL      JUNT71 *****
C      USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG, DEFALOC,
C      AND PRINTCON
C
C      COMMON/CONTROL/STALADJ,CLOSE,MADOP,PROGRESS,QUALITY,NPASS,PRM,DELT
C      IVAL,COHR,STIME,VERIFY,CONRZ,IMATCH
C      1,MINDAMAG, LA(2), FALMIRV, TARFAC
C      TYPE INTEGER MADOP
C      TYPE REAL MINDAMAG
C
C      CONTROL *****
C      STALADJ DETERMINES WEIGHT GIVEN TO SIZE PROFIT VS EFFICIENCY
C      IN INITIAL ALLOCATION
C      CLOSE CONTROLS INITIAL SIZE OF STEP PREMIUM
C      MADOUT DETERMINES NEXT OPERATION BY MAD
C      PROGRESS MEASURES PROGRESS OF ALLOCATION
C      QUALITY DETERMINES MAXIMUM NUMBER OF CYCLES OF STALL REFINEMENT
C      NPASS MEASURES WHICH PASS
C      PRM CONTROLS INITIAL SIZE OF LINEAR PREMIUM
C      DELTVAL MAX DISCREPENCY IN IGT VALUE FOR ONE TGA BIN
C      COHR CONTROL SIZE OF CORRELATIONS
C      STIME OBSOLETE
C      VERIFY 0,1 VERIFY ALLOCATION IF 1.
C      2 TEST WITH CONRZ FOR COHR
C      MINDAMAG x MINIMUM REQUIRED MARGINAL FRACTIONAL DAMAGE
C      FALMIRV CORRELATION ARRAY FACTOR FOR MIRV SYSTEMS
C      LA(2) DAMAGE LAW USED
C      TARFAC MULTIPLIER FOR TERMINAL BOMBER DEFENSE LEVEL
C
C *****
C      DYNAMIC      JUNT71 *****
C      USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG, RESVAL,
C      DEFALOC, AND PRINTCON
C
C      COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIGN,TASK,CNTRYLOC,FLAG,IGTMULT,
C      1,IGTLAT,IGTLONG,IGTRAD,VTC,MX(2),VC(2),NK,FVAL(3),TAU(3),IMCLASS,
C      2,ICLASSN,INTYPE,TARDEF,INDYPEN,DISTOF,UIDSTG,NBLN,CTMULT,VY,
C      3,IGTWT(3),PAYOFF,COST,PROFIT,DPROFIT,WRTEST,IMECT,NUMFIX,
C      4,IGTNUM,IG(30),KORM(30),HVAL(30),PEN(30),TCARR(30),LDN
C
C      TYPE INTEGER IGTNAME,DESIGN,TASK,CNTRYLOC,FLAG,TARDEF
C
C      EQUIVALENCE (DNARRAY,IGTNAME)
C
C      DATA(LDA = 45)
C
C      DIMENSION VTU(30)
C      EQUIVALENCE(VTU, RVAL)
C
C      DYNAMIC *****
C      COMMON/DYNAMIC/IC/IGTNAME,INDEXNO,IGTMULT,IGTLAT,IGTLONG,IGTRAD,VTC,M
C      1,M(2),VC(2),NK,FVAL(3),TAU(3),IMCLASS,INTYPE,TARDEF,INDYPEN,DISTOF
C      2,UIDSTG,NBLN,CIMULT,NUM,IG(30),KORR(30),VTU(30),VT
C      3,IGTWT(3),PAYOFF,COST,PROFIT,DPROFIT,WRTEST,IMECT,BLANK,ITGT

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C 4*PEN(30)
C FOR DEFINITIONS OF TGTNAME THRU TARDEF SEE/TARGET/
C NUMAX=JC MAXIMUM NUMBER OF WEAPONS PER TARGET
C INDYPEN INDEX OF DEPENDENT CORRIDOR ASSIGNED THIS TARGET
C DISTOF DISTANCE TARGET TO END OF DEPEND
C DISTOG DISTANCE TARGET TO RECOVERY BASE
C NBLN = MISDEF IF STALL ALLOCATION, =MISDEF IF DEFALO: ALLOCATION
C CTMULT CURRENT MULTIPLICITY
C VI SURVIVING TARGET VALUE
C TWTWT RUNNING TARGET *EIGHT
C PAYOFF PAYOFF ON PRESENT TARGET (PER TARGET MULTIPLE)
C COST COST ON PRESENT TARGET (PER TARGET MULTIPLE)
C PROFIT PROFIT ON PRESENT TARGET (PER TARGET MULTIPLE)
C DPROFIT CHANGE IN PROFIT SINCE LAST PASS
C WTEST USED IN PROGRAM ALLOC
C IMECT END OF TAPE SENTINAL (SET TO IMECT AFTER LAST GOOD RECORD)
C NUMFIX NUMBER FIXED WPNs THIS FIXED TGT
C ITGT TARGET INDEX INTERVAL TO ALLOCATE
C PEN PENETRATION PROB *WEAPONS ALLOCATED THIS TARGET
C NUM NUMBER OF *WEAPONS ALLOCATED THIS TARGET
C I# INDEXES OF *WEAPONS ALLOCATED THIS TARGET
C KORR CORRIDOR
C VTU TOTAL EXPECTED UNDESTRUCTED TARGET VALUE
C TCARR WEAPON TIME OF ARRIVAL
C LUN LENGTH OF DYNAMIC ARRAY TO NUM
C *****
C COMMON/TARGET/NOT USED IN ALLOCATE, INCLUDED FOR DEFINITIONS ONLY
C COMMON/TARGET/TGTNAME, INDEXTG, DESIG, TASK, CNTRYLOC, FLAG, TGTMULT,
C 1TGTLAT, TGTLONG, TGTTRAD, VIC, M, H1, H2, FVALH1, NK, FVALT1, FVALT2, TAU1,
C 2TAU2, TAL3, I#CLASS, I#TYPE, TARDEF, MISDEF, MINKILL, MAXKILL,
C 4MAXCOST
C NOT MAY NOT BE USED NOT TO BE USED WITH COMMON/DYNAMIC/
C NGTE FTC MEANS FIRST TARGET: COMPONENT
C TGTNAME FTC NAME
C INDEXNG FTC INDEX NUMBER
C DESIG FTC DESIGNATION CODE
C TASK FTC TASK CODE
C CNTRYLOC FTC COUNTRY LOCATION CODE
C FLAG FTC FLAG CODE
C TGTMULT NUMBER OF TARGET COMPONENTS
C TGTLAT AVERAGE LATITUDE
C TGTLONG AVERAGE LONGITUDE
C TGTTRAD FTC RADIIUS
C VIC FTC VALUE
C M FTC NUMBER OF HARDNESS COMPONENTS
C H1 FTC PSI OF 1ST HARDNESS COMPONENT
C H2 FTC PSI OF 2ND HARDNESS COMPONENT
C FVALH1 FTC FRACTIONAL VALUE 1ST HARDNESS COMPONENT
C NK FTC NUMBER OF TIME COMPONENTS
C FVALT1 FTC FRACTIONAL VALUE 1ST TIME COMPONENT
C FVALT2 FTC FRACTIONAL VALUE 2ND TIME COMPONENT
C TAU1 FTC 1ST TIME COMPONENT
C TAU2 FTC 2ND TIME COMPONENT
C TAU3 FTC 3RD TIME COMPONENT
C I#CLASS FTC CLASS VALUE (HOLLENITH)
C I#CLASS FTC CLASS INDEX

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C SIGP(G,N,JH) INCREASE IN VARIANCE FOR TGA SET N IF WPN G ADDED
C DIMENSION (G,N+1,JH)
C SIGD(N,N,JH) CHANGE IN VARIANCE FOR TGA SET N IF (N+1)TH WPN
C DELETED DIMENSION (N,N+1)
C DSIG(G) TEMPORARY VARIABLE VARIANCE CONTRIBUION OF WPN G
C VS SPECIFIED WPN KG DIMENSION (G)
C *****
C WADFINAL LJUN71 *****
C USED BY STALL, WAD, WADOUT, AND PRNTNCW
C
C COMMON/WADFINAL/
C 1 VTP(200),DELVT(30),NUMG,IGI(30),ICP,ICPS,CTSPILL
CEND WADFINAL *****
C VTP(G) TOTAL EXPECTED UNDESTRUCTED TARGET VALUE WPN G ADDED
C DIMENSION (G)
C DELVT(N) DIFFERENCE IN EXPECTED UNDESTRUCTED TARGET VALUE (N+1)TH
C WPN DIMENSION (N+1)
C DELETED AT TIME OF ALLOCATION
C NUMG NO WPNs ASSIGNED TGT ON OLD PASS
C IGI(N) INDEX OF (N+1)TH WPN ASSIGNED ON OLD PASS
C ICP NO OF ADD AND DELETE OPERATIONS THIS PASS
C ICPS NO OF ADD AND DELETE OPERATIONS
C *****
C WADOUT LJUN71 *****
C USED BY STALL, WAO, WADOUT, AND PRNTNCW
C
C COMMON/WADOUT/
C 1 PVRMX,IPVRMX,PPMX,IPPMX,DVRMN,IPVRMN,DPMN,IDPMN,NUMMAX,NB
C 1 ,TPMAX,NICA,NTCAX,VTMIN,VTMAX,ALPHA,VTEF,VTZG
CEND WADOUT *****
C NTGA NO TGA SETS ON TGT (NTCAP1=NTGA+1, NTCAP2=NICA+2)
C DIMENSION (1)
C MAX EFFICIENCY PVRMX AND ASSOCIATED WPN INDEX IPPMX
C MAX PROFIT PPMX AND ASSOCIATED WPN INDEX IPVRMX
C DVRMN AND IPVRMN NOT USED
C MP PROFIT DPMN AND ASSOCIATED WPN INDEX IDPMN
C NUMMAX MAX NO WPNs ALLOWED PER TARGET
C NB NUMBER WEAPONS NUM NOW ON TGT
C TPMX LARGEST PROFIT OR POTENTIAL PROFIT NOTED SO FAR
C NTGA NUMBER OF TIME ARRIVAL BINS USED
C NICA MAXIMUM NUMBER OF TIME ARRIVAL BINS ALLOWED
C VTMIN DISTRUCTION OF TGT BELOW VTMIN CONSIDERED OF NO VALUE
C VTMAX MAXIMUM ACCEPTABLE SURV TGT VALUE
C ALPHA FACTOR ON VALUE--REQUIRED TO JUSTIFY VTMAX
C VTEF = MAX(1,VTMIN)
C *****
C WAOBPA LJUN71 *****
C
C USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNCW, RESVAL, DEFALOC,
C STALL, FHUP, SUMTSM, TABLEUP, HDALCRU
C
C COMMON /WAOBPA/ JGTG, INACTIVE(200), TGA(200),
C 1 TVALTGA(200), VTGA(200+2), MUP(200+2), MISK(6+200+2),
C 2 SSIG(20+2), WINKILL, MAXCOST, ILA*,
C 3 MISDEP, MGRM(200), PEA(200), XMUP(200+2), JGITA, LNEXT,

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4  MINKILX, MAXKILX, MAXCOST, MISDEF, NACTV, IGA(200), IGAX(200),
5  MCHRX(200), PEX(200), STKX(200,2), STRX(200,2), LSTMAX
    9000
    10000
    11000
    12000
    13000
    14000
    15000
    16000
    17000
    18000
    19000
    316000
    317000
    318000
    319000
    320000
    321000
    322000
    323000
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    338000
    339000
    1000
    2000
    3000
    4000
    5000
    6000
    7000
    8000
    9000
    10000
    11000
    12000
    13000
    14000
    15000
    16000
    17000
    18000

C  TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C  TYPE REAL MINKILX, MAXKILX, MAXCOST
C  DIMENSION STARRAY(100), ISTARRAY(100)
C  EQUIVALENCE (STARRAY, ISTARRAY, JIGTX)
C  DATA (LSTMAX = 1607)
C  MCHRXN *****
C  FORMERLY COMMON TGTDATA OR STATIC DATA
C  TGA(G) TIME OF ARRIVAL OF WPN IN GROUP G AT TGT
C  TVALTGA(G) UNATTACHED TGT VALUE AT TGA FOR WPN IN GROUP G
C  VICA (G,JH) UNATTACHED VALUE COMP JH AT TGA FOR WPN IN GROUP G
C  MUP(G,JH) CONTRIBUTION OF WPN G TO MEAN IF ADDED (=LN(S))
C  MISK(A,G,JH) SORTED SUM CODE (GAMMA CODE/LN(MODEX)/LN(TK))
C  SSIG(G,JH) SORTED LN(S)
C  MINKILL MIN. ACCEPTABLE KILL PROB
C  MAXKILL MAX. KILL PROB DESIRED
C  MAXCOST MAX WEAPON COST/TGT VAL) ACCEPTABLE TO ACHIEVE MINKILL
C  *****
C  DIMENSION RIGT(13)
C  *****
C  DEFENSE LJUN71 *****
C  COMMON/DEFENSE/NTX(3),PA(3),PTATRX(2),PRX(2),RADPX,TINTFAC
C  DEFENSE *****
C  *****
C  NTX ESTIMATES OF TERMINAL INTERCEPTORS PRESENT
C  PA PROBABILITY THAT NIX OCCURRED
C  PRX TERMINAL INTERCEPTOR KILL PROBABILITY AGAINST UNARMEDENED WARM
C  MA NTX/MISDEF UPPER AND LOWER DEVIATION FROM MISDEF
C  PRA PROBABILITY THERE ARE MAX/MISDEF INTERCEPTORS
C  RADPX RANDOM AREA DEFENSE KILL PROBABILITY
C  TINTFAC MULTIPLICATION FACTOR FOR MISDEF
C  *****
C  FIXED LJUN71 *****
C  USED BY MULCON, STALL, DEFALSC, HDALGRU
C  *****
C  COMMON/FIXED/IFIGT, ISTORE(8),IFM(31), TIME(30), NFIAmps,
1  SX(5), IFIXSEG, IFIXEND, SAVEFIX, IADU
C  *****
C  TYPE LOGICAL SAVEFIX
C  DIMENSION ITIME(30), IS(S)
C  EQUIVALENCE (ITIME, TIME), (IS, SX)
C  *****
C  IFIGT INDEX OF FIRST FIXED TARGET
C  ISTORE TEMPORARY STORAGE AREA
C  IFW INDEXES OF WEAPONS FIXED THIS TARGET
C  TIME WEAPON TIME OF ARRIVAL
C  NFIAmps TOTAL NUMBER OF FIXED MISSILES
C  SA SCRATCH ARRAY
C  IFIXSEG ASSIGNMENT INPUT INDEX
C  IFIXEND ASSIGNMENT INPUT INDEX
C  SAVEFIX WRITE MSRTIME FILE ONLY IF TRUE

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C      L400      IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C      C         IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C      C         IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C      C         CARD INPUT
C      C
C      COMMON/FIXEDASS/IFIXCMP(10), IFIXTAPE, 18CD, NLFTAR
C      C
C      IFIXTEMP  TEMPORARY STORAGE AREA
C      C
C      IFIXTAPE  LOGICAL UNIT NUMBER - FILEHANDLER FILE
C      C
C      18CD      LOGICAL UNIT NUMBER - BCD FILE
C      C
C      NLFTAR    NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C      C
C      CENDU     FIXED
C      CUSE      SMAT 1JUN71 *****
C      C
C      COMMON/SMAT/SMAT(6,5)*LSMAT,SMATMIRV(3),SHNOMIRV(3)
C      C
C      D-TAILSMAT = 3U)
C      C         SMAT *****
C      C *****
C      CSUBR      MULCON1 /JUN71 *****
C      C
C      TYPE INTEGER A, G9
C      TYPE REAL LAMBDA
C      DATA (NBSU)
C      DATA (G=0)
C      DATA (NINPR=3)
C      C
C      DIMENSION CURSUM(310)*NCWPS(310)
C      TYPE REAL NCWPS
C      C
C      CALL TIMEW(-1)
C      ONEN = -1.0
C      KNTGTS = NTGTS
C      C
C      SET UP FILE INDEXES
C      TGTIN = ALLOC1
C      TGTOUT = ALLOC2
C      NTGTIN = THSCRATCH
C      NTGTOUT = THALOC1AK
C      ITP = TGTFILE(1)
C      MYIDENT = THIGFILE
C      CALL SETREAD
C      ITP = TGTOUT
C      MYIDENT = NTGTOUT
C      MYLENGTH = ALLOC2AK(2)
C      CALL SETWRITE
C      TEMPORARY MSLTIME FILE
C      ITP = ITHPMSL
C      MYIDENT = THSCRATCH
C      CALL SETWRITE
C      RESERVE SCRATCH FILE FOR ALLOC1 FILE
C      ITP = NTGTIN
C      MYIDENT = THSCRATCH
C      CALL SETWRITE
C      SET UP DAMAGE TABLE
C      CALL SETABLE

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504 CONTINUE
   CALL PHNTALL(11)

C *****
C 600 INITIALIZE MULCON VARIABLES
C *****
   601 MULSTEP=1
   1STEP=0
   PROGRESS=0.0
   ALLPREM=0.0
   PRCCMULT=0.01
   SPAYOFF=0.0
   SUMCOST=0.0
   SUPRCFIT=0.0
   SPRCFIT=0.0
   SPRCFIT=0.0
   CMTST=100.0
   NUMQ=0 SIGPS=0
   PROVIDE INITIAL ESTIMATE OF DEPENDENCE OF RATE ON LOCAL LAMBDAS
   DO 602 J=1,NIA(11)
     CURSUM(J)=0.0
   602 CONTINUE

C *****
C 603 INITIALIZE RUNNING SUMS
   DO 605 INTPR=1,INTPRD
     WIFAC(INTPR)=0.5*SQR(F(XNTGTS))
     WISUM(INTPR)=WNTGTS/WIFAC(INTPR)
     DO 604 J=1,NIA(11)
       RUNSUM(J,INTPRD)=NCAPS(J)/WIFAC(INTPR)
     604 CONTINUE

C *****
C 605 INITIALIZE TARGET WEIGHT VARIABLES
     RTGTW(INTPR)=1.0
     WTRATE(INTPR)=1.0
   605 RTGTW(INTPR)=WTRATE(INTPR)*RTGTW(INTPR)

C *****
C 606 INITIALIZE ALLOCATION RECORDS
     DO 605 I=1,NG
       NALL(I)=0
       RNALL(I)=0.0
       11GT=0
       MY3 = NTGTS / 3
       CALL INITGT
       CALL TIMEPE(1)
       GO TO 601
     606 CONTINUE

C *****
C 700 BRANCH TO DC CALCULATIONS FOR FIRST PASS OF TARGET TAP
C *****
C 701 CONTINUE
   CALL TIMEPE(10)
   CALL PHNTALL(21)
   CALL PHNTALL(4)
   CALL PHNTALL(5)
   CALL PHNTALL(23)

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C
C
C *****
C INITIALIZATION FOR FIRED ALLOCATION
C AND CALCULATION OF WEAPON - TARGET INTERACTIONS
C
801 DC 9000 I = 1, 30
9000 IF(I)=C
      IFW(31) = 2M
      DC 9001 J=1,30
9001 KCHR(J)=C
      NUMFIX=C
      CALL GETDATA
      ISTART = IFIXBEG
      CALL PHATCON
      IF(IITGT - IIGT) 950, 926, 1001
      INPUT ERROR - CAMDS OUT OF SEQUENCE
C
950 PRINT 951, IITGT, ISTORE
951 FORMAT('FIXED ASSIGNMENT REQUESTS OUT OF SEQUENCE. ONLY REQUESTS
1 PRECEDING THE FOLLOWING CARD WILL BE PROCESSED.//', I1, I10, B8)
      IITGT = 99999
      GO TO 1001
C
C SET FLAG FOR MORE FIRES BUT HEAD NEXT CARD ONLY IF THERE IS MORE
C
926 IF(31) = 2MAX
      IF(IFIABEG .GT. 30) GO TO 1001
      READ #PNS FIRED THIS IGT
      DECODE(62, 928, ISTORE(1)) (IFW(J), ITIME(J), J = IFIABEG,
1 IFIXEND), IFW(31)
C
928 FORMAT(6('03,A7),A2)
929 IF(IFI(31)=20,2M) 1,2R,(IFIEND-GE,30) 9450, 927
927 IFIXBEG = IFIXEND + 1 $ IFIXEND = IFIXEND + 6
      IF(IFIABEG .GT. 30) IFIXEND = 30
      IF(IFIABEG) 932, 933, 932
932 IIP = IFIXABEG $ CALL ROADWAY(IFIABEG, IIG)
      DECODE(72, 929, IFIXTEMP) (IFW(J), ITIME(J), J=IFIABEG, IFIXEND), IFW(31)
      GO TO 925
933 READ (IRCU, 929) (IFW(J), ITIME(J), J=IFIABEG, IFIXEND), IFW(31)
929 FORMAT(10A10('03,A7),A6)
      GO TO 925
9450 IF(IFIABEG) 942, 943, 942
942 IIP = IFIXABEG $ CALL ROADWAY(IFIABEG, IIG)
      DECODE(74, 930, IFIXTEMP) (IS(1), IS(2), (ISTORE(J), J=1,8)
      GO TO 944
943 FORMAT(8A10('02,B4))
943 READ (IRCU, 930) IS(1), IS(2), (ISTORE(J), J = 1, 8)
944 IITGT = NUMGET (IS(1), IIG)
944 DC 941 J = ISTART, IFIXEND
941 IF (IFW(J) .EQ. 3M) GO TO 941
      IFW(J) = NUMGET (IFW(J), 3)
      IF(IFI(J).LE. 0.0R. IFW(J).GT. NOKOUP) 951, 931
931 NUMFIX = NUMFIX + 1
      IGT(NUMFIX) = IFW(J)
      ITIME(NUMFIX) = ITIME(J)
      GO TO 941
C
951 PRINT 952, IFW(J), IITGT, DESIG

```

1522

```

1221 ITP=ITGTCU1 3 CALL WARRAY(DNARRAY,LDN)
      IF (IMECT = JMECT) 1224,1231,1224
1224 IF (NUM) 1223, 1223, 1225
1225 NDT = 5 * NUM
      ITP = IGTIN
      CALL RUARWAY(IU, NDT)
      ITP = IGTOUT
      CALL WARRAY(IU, NDT)
      GO TO 1223
1221 IF ((ITGT,GT,IFINTGT),AND,(NPASS,GT,IFNPASS)) 1231, 1301
      C PROCESS COMPLETE TERMINATE ALL TAPES
1231 ITP=ITGTCU1 3 CALL TERMTAPE
      ITP=ITGTCU1 3 CALL TERMTAPE
      PRINT 1232
1232 FORMAT(// * END OF WEAPON = TARGET PROCESSING*//)
      CALL PRNTNO(4)
      CALL PRNTNO(2)
      CALL SORTMIS
      CALL TIMEF19)
      CALL PRNTNO(23)
      IF (INSTK = 0) ALLOCIA(1) RETURN
      MYIDENT = THSCHATCH
      ITP=ALGCT1 3 CALL SET READ
      MYIDENT = THALOCCTAR
      MYLENGTH = ALLOCIA(2)
      ITP=ALGCT2 3 CALL SETWRITE
1241 ITP=ALGCT1 3 CALL RUARWAY(DNARRAY,LDN)
      ITP=ALGCT2 3 CALL WARRAY(DNARRAY,LDN)
      IF (IMECT = 0) JMECT) 1282, 1280
1280 IF (NUM) 1281, 1281, 1283
1283 NDT = 5 * NUM
      ITP = ALGCT1
      CALL RUARWAY(IU, NDT)
      ITP = ALGCT2
      CALL WARRAY(IU, NDT)
      GO TO 1281
1282 ITP=ALGCT1 3 CALL TERMTAPE
      ITP=ALGCT2 3 CALL TERMTAPE
      CALL TIMEF19)
      CALL PRNTNO(23)
      RETURN
C *****
C C130 REMOVE EARLIER CONTRIBUTION OF SAME TARGET TO RUNNING SUMS
C
1301 DC 1302 INTRPD=ININTRPD
1302 WISUM(INTRPD)=WISUM(INTRPD)-((GTWT(INTRPD)/WTFAC(INTRPD))*(CTMULT/
      IGTIMULT)
      REVCCST=0.0
      DC 1323 N=1,NUMO
      G=IGC(N)
      NNWP = I
      IF (KORR(N)) 1306, 1307, 1307
1306 NNWP = -KORR(N)
1307 DC 1323 NN = 1, NNWP
      SCRPWP(G)=SUMWP(G)+CTMULT

```

```

NEVCOST=NEVCOST+LAMEF(G)
KNALL(G)=KNALL(G)-CTMULT
DC 1313 IAT=I,INT
      JAJATIRID(IAT,G)
      DC 1303 INPKO=1,INIPRO
1303 MNSUM(J,INIPRO)=MNSUM(J,INIPRO)-(IOT*I(INIPRO)/MTFAC(INIPRO))*
      CTMULT
1313 CONTINUE
1323 CONTINUE
      SPAYOFF=SPAYOFF-PAYOFF*CTMULT
      SUMCOST=SUMCOST-COST*CTMULT
      SPROFIT=SPROFIT-PROFIT*CTMULT
      IF (PROGRESS.LI.1.0) 1305,1305
1304 SPROFIT=SDPROFIT-DPROFIT*CTMULT
1305 QPROFIT=PAYOFF-NEVCOST
C
C *****
C C1400 CALL STALL FOR ALLOCATION TO TARGET AND UPDATE RUNNING
C      VARIABLES FOR NEW ALLOCATION
C
1401 CTSPILL=0.0
      MULCON2 1JUN71 *****
      CALL PRNTALL(6)
      CALL PRNTALL(7)
      CALL PRNTALL(8)
      FOR FIXED ALLOCATION
C FOR ALL NPASS, MISDEF GT 0, NUMFIX GT 30, CALL DEFALOC DIRECTLY
C NPASS=L,MISDEF=0,NUMFIX GT 30,READ EXCESS,PRINT ERROR,CALL STALL
C FOR ALL NPASS,ALL MISDEF,NUMFIX LT 30, CALL STALL
      IF (NPASS.GT.1) 1418,1419
1418 IF (NUMFIX.GT.30) 1420,1421
1419 IF ((IFIXEND.GE.30).AND.(IFM(31).NE.2M )) 1420, 1421
1420 IF (MISDEF.GT.G) 1420,1423
1423 PRINT 1425,ITGT
1425 FORMAT(1X,119(IH0),//7M TARGET,16,31M HAS MORE THAN 30 WEAPONS
      ,FIXED,1X,119(IH0))
1431 IF (IFIXTAPE.EQ.0) 1443,1442
1442 ITP = IFIXTAPE  S      CALL MDARRAY(IFIXTEMP, 10)
      DECODE(74,300,IFIXTEMP) IS(1), IS(2), (ISTONE(J) + J,1,8)
      GO TO 1444
1443 HEAD(1800,300) IS(1), IS(2), (ISTONE(J), J = 1,8)
1444 IFGT = NUMGET(15(1), 10)
1429 FORMAT(4X,A2)
      IF (IFM(31).NE.2M ) 1431, 1421
1426 IF ((IVERIFY.EQ.2).AND.(PROGRESS.EQ.2.)) 1412,1427
1427 PROFIT=-10.E+6
      GO TO 1412
1421 CALL TIMEE(5)
      CALL STALL
      CALL TIMEE(6)
      IF ( MISDEF .GT. G) 1412, 1407
1412 CALL DEFALOC
      CALL TIMEE(7)
1407 CONTINUE

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DC 1492 LUSLNUM
IT = IG(LU)
IF (NRBA .LT. 0) 1409, 1408
1408 KRR(LU) = KRR(LIT)
1409 PER(LU) = PER(LIT)
HVAL(LU) = DELVT(LU) / LAMEF(LIT)
1492 TCARR(LL) = TCAR(LIT)
ICPS=ICPS+ICP
C
C AUGMENT RUNNING SUMS
DC 1402 INTPRD=1+INTPRD
TGTWT (INTPRD)=TGTWT+I(INTPRD)
1402 WTSUM(INTPRD)=WTSUM(I+INTPRD)+TGTWT (INTPRD)*(CTMULT/TGTMULT)
C
DC 1406 NSELNUM
G=IG(N)
NMEP = 1
IF (KORD(N)) 1410, 1411, 1411
1410 NAMEP = KGRK(N)
1411 DC 1406 NN = 1, NMEP
NALL(G)=NALL(G)+CTMULT
NVAL(G)=NVAL(G)+CTMULT
UC 1405 IAT=INAT
J=JATTRIB(IAT,G)
CURSUM(J)=CURSUM(J)+CTMULT
DC 1403 INTPRML=INIPRQ
1403 RUNSUM(J,INTPRD)=RUNSUM(J,INTPRD)+TGTWT (INTPRD)*CTMULT
1405 CONTINUE
1406 CONTINUE
DPRCFIT=DPRCFIT+DPRCFIT
DELTEFF=DPRCFIT/VALPNS
SOPRCFIT=SOPRCFIT+DPRCFIT*CTMULT
SPAYOFF=SPAYOFF+PAYOFF*CTMULT
SUPCOST=SUMCOST+COST*CTMULT
SPRCFIT = SPRCFIT+DPRCFIT*CTMULT
SUELTEFF=SOPRCFIT/VALPNS
CALL TIMEE(6)
CALL PRNTALL(2)
CALL PRNTALL(24)
C
C *****
C1500 WRITE PRESENT ALLOCATION STATE ON FILE
C1500 WRITE DYNAMIC FILE
C1500 IF (PROGRESS.GE.2) 1511,1501
1501 MYIDNT = NTGTOUT
C
C THESE MASKING EXPRESSIONS HELP NEUTRALIZE FILE I/O ERRORS
C
INDEXNO = INDEXNO + AND. 377778
IF (INCLASS .EQ. THCOMPLEX .OR. INCLASS .EQ. RMCOMPLEAD) 1509,151C
1509 INTYPE = INTYPE + AND. 778
1510 ITP = IGTOUT
1510 IF(NUM) 1513, 1513, 1512
1512 CALL MHARRAY(19, NUM)
CALL MHARRAY(KRKN, NUM)
CALL MHARRAY(HVAL, NUM)
CALL MHARRAY(PEN, NUM)

```

```

CALL WHARRAY(TCARR, NUM)
1513 CALL TIME(9)
1511 PROCMULT=PROCMULT+CTMULT
1502 IF (CTSPILL+GT+0.1) 1504,1503
1502 INDXND=INDXND+CTMULT
CTMULT=CTSPILL
C CORRECT PREMIUMS FOR PORTION JUST SPILLED
DC 1505 NWZ=1+NUMC
IGZ=IGZ(NWZ)
NWEP = 1
IF (KORR(NWZ)) 1508, 1505, 1505
1508 NWEP = -KORR(NWZ)
1505 SURPWP(IGZ) = SURPWP(IGZ) + CTSPILL * NWEP
DC 1507 IGZ = 1, N0
IF (INACTIVE(IGZ)) 1507, 1506
1506 CALL PREMIUMS(IGZ)
1507 CONTINUE
C AND PROCESS PORTION JUST SPILLED
CALL TIME(8)
GO TO 1401
1503 IF (PROCMULT+LF+TGTMULT) 701,1504
C RETURN TO PROCESS PART PREVIOUSLY SPILLED WITHOUT ADJUSTING LAMBDAS
1504 PROCMULT=.0001
IF (XKOCF(1TGT,MY3) <0, 0) CALL PRTALL(3)
IF (1TGT+EQ+NTGTS) 1601,1709

C *****
C 1600 REJND TAPES AND INTERCHANGE READ AND WRITE UNITS *****
C
1601 INEOT = 3HEOT
NUM = 0
IIP=IGTCUT $ CALL WHARRAY(DWHARRAY,LDN)
IIP=IGTIN $ CALL TERM(AVE)
1605 IIP=IGTCUT $ CALL TERM(TAPE)
NIAPETEM=IGTIN
TGTIN=IGTCUT
TGTOUT=TAPEIEM
NIAPETEM = NTGTIN
NTGTIN = NTGTOUT
NTGTOUT = NIAPETEM
IIP = IGTIN
MYIDENT = NTGTIN
CALL SETREAU
MYIDENT = NTGTOUT
MYLENGTH = ALLOCAR(2)
IIP=IGTCUT $ CALL SETWRITE
CALL TIME(9)
IF (INPASS+EQ+3) AND (PROGRESS+LI+.75))1604,1606
1604 PROGRESS = 2+0 $ IVEIFY = 0 $ STRIN = ALLOC2
PRINT 1603
1603 FCRMAT(1M,119(1M))//UNSATISFACTORY PROGRESS. RUN TERMINATED*
1606 IF (INPASS+EQ+1)1607,1615
C*** REMOVE WPN GROUPS WITH NO TARGETS
1607 DC 1608 J=1,INT(17P1R
1608 NCWPS(J)=0.0

```

```

DC 1614 G = 1.0NG
IF (VALIDA(G).EQ.0.0) 1616, 1609
1609 DC 1613 IAT = 1.0NAT
J = JATIRB(IAT,G)
1613 NCMP(S(J) = NCMP(S(J)) + NPWS(G)
1614 CONTINUE
IIP = IGTFILE(I)
CALL TERMTAPE
IF (IFIXTAPE) 1616, 1615, 1616
1616 IIP = IFIXTAPE
CALL TERMTAPE
1615 NPASS = NPASS + 1
DC 1602 G = 1.0NG
1602 NALL(G) = 0
GO TO 1711
C
C *****
C UPDATE RUNNING TARGET WEIGHT FOR NEXT TARGET
1709 DC 1710 INTPRD = 1.0INTPRD
1710 RIGHT(INTPRD) = RIGHT(INTPRD) * TRATE(INTPRD)
GO TO 1714
1711 DC 1713 INTPRD = 1.0INTPRD
WTFAC(INTPRD) = MTGTW(INTPRD)
RIGHT(INTPRD) = TRATE(INTPRD)
WTSUM(INTPRD) = WTSUM(INTPRD) / WTFAC(INTPRD)
DC 1712 J = 1.0NATIRB
1712 RUNSUM(J,INTPRD) = RUNSUM(J,INTPRD) / WTFAC(INTPRD)
C
1713 CONTINUE
1714 CONTINUE
C
C *****
C DETERMINE WHETHER TIME TO RECOMPUTE MULTIPLIERS
1800 *****
18.1 ISTEP = ISTEP + 1
CALL TIME(G)
IF (ISTEP.GE. MULSTEP) 1802, 701
C TO RECOMPUTE MULTIPLIERS
1802 ISTEP = 0
1804 IF (PROGRESS.EQ.1) 701, 2001
C
C *****
C CALCULATE REVISE ALLOCATION ERROR ESTIMATES (ALERRST(I,J,INTPRD))
C2000 *****
2001 DC 2003 INTPRD = 1.0INTPRD
DC 2002 J = 1.0NATIRB
2002 ALERRST(J,INTPRD) = (RUNSUM(J,INTPRD) / WTSUM(INTPRD)) - NCMP(S(J))
INIGTS
2003 CONTINUE
DC 2004 G = 1.0NG
J = JATIRB(2,G)
2004 SURMP(G) = ALERRST(J,INTPRD) * NTGTS
C SEND DATA TO MAG
IF (PROGRESS.EQ.1) 2501, 2101

```

```

C      DO NOT CHANGE LOCAL MULTIPLIER
C      *****
C2100 CHECK ERROR ESTIMATES FOR CONSISTENCY OF SIGNS
C      *****
C      2101 DO 2402 J=2,NINT(NTGTS)
C            IF (NCMPS(J).LT.5) 2402,2103
C2103 IF ((PROGRESS-GE.75).OR.(NPASS-GE.2)) 2104,2105
C2104 SIGN=ALERRST(J,1)
C            GO TO 2106
C2105 SIGN=(CURSUM(J)/MULSTEP)-NCMPS(J)/NTGTS
C2106 CURSUM(J)=0.0
C            DO 2102 INTPROD1,INTPRD
C              IF (SIGN*ALERRST(J,INTPRD) .LT. 0.0) 2402,2102
C2102 CONTINUE
C      *****
C      2301 TEMP=ALERRST(J,INTPRD)
C2302 CORRATE=TEMP/TEMP/(NCMPS(J)/NTGTS)+SENSVITY*FSNSVITY/NTGTS
C            (NOTE FSNSVITY*.67*.0.0 NEEDED TO SUSTAIN CONVERGE-GE IN FINAL
C            CORFAC*CORRATE*MULSTEP
C            IF (CORFAC .GT. .5) 2303,2401
C2303 CORFAC=.5
C      *****
C      2401 LA(J)=LA(J)*(1.0-(CORFAC*TEMP/CNEN)/(TEMP+2.*NCMPS(J)/
C            INTGTS))
C2402 CONTINUE
C2403 LA(1)=1.0
C      *****
C2500 CORRECTION OF ACTUAL LAMRANGE MULTIPLIERS
C      AND UPDATING RESOURCE VALUE VALPNS AND VALUE OF ALLOCATION
C      ERROR VALERR
C      *****
C      2501 VALPNS=0.0
C            VALERR=0.0
C            DO 2503 G=1,NG
C              LAMBDA=1.0
C              DO 2502 INT=1,INT
C                J=JATTRIB(LA(G))
C                LAMBDA=LA(J)*LAMBDA
C              LAM(G)=LAMBDA
C              VALPNS=VALPNS+LAMBDA*NCMPS(G)
C              VALERR=VALERR+LAMBDA*ABS(SUPPRP(G))
C2503 LAM(G)=LAM(G)

```



```

C
C *****
C2600 RECALCULATE THE INTEGRATION PERIODS
C
C2601 SUMSQERR=0.0
      NGP2=NG*2
      DO 2602 J=3,NGP2
        TEMP=ALERRST(J*INTPRD)
        SUMSQERR=SUMSQERR+TEMP*TEMP
      2602
C
C *****
C      ERROR EXPECTED STATISTICALY=TOT.*PNS.*TOT.TOTS./INT.PERIOD
C      SO CALCULATE THEORETICAL INT. PERIOD AS FOLLOWS
C
C2603 EAPINTPD=NG*PNS(2)/(SUMSQERR*NTOTS)
C
C      CALCULATE DESIRED BASIC INTEGRATION PERIOD (KINTPRD)
C2604 DESINTPD=EXPINTPD*RATIGINT
C      (NOTE WEIGHT FACTOR =1.0*1.0/DESINTPD) ---APPROX.
C
C      CALCULATE WEIGHT FACTORS
      CRATE=RATE
      2605 WATE=MAX1F(0.0,(1.0/DESINTPD)-(2.0/(NTOTS*CRATE*INT)))
      WATE=MIN1F(WATE,.07)
      IF (PROGRESS*GE..5) 2615,2616
      2615 WATE=MIN1F(WATE,WATE*WATE
      2616 WATE=(AINTPD)=1*WATE
      INTPRD=AINTPD
      WATEI=WATE*(AINTPD-1.0)/NTOTS
      2606 INTPRD=INTPRD-1
      WATEI=WATEI*WATEI*INTPRD
      WATE=(INTPRD)=1*WATEI
      IF (INTPRD .GT. 1) 2605,2608
      2608 CONTINUE
C
C *****
C2700 EVALUATE PROGRESS
      2701 IF (PROGRESS*EQ.0) 2702,2705
      2702 MULTSTEP=2
      IF (WTSUM*(INTPRD).GT.(NTOTS/2)) 2703,701
      2703 PROGRESS=.4
      I=AIT = 0
      GO TO 701
      2705 IF (PROGRESS*.L.1.0) 2713,2708
      2713 IF (PROGRESS*.LT.5) 2714,2706
      2714 IF (WATE*.LI. CRATE*.CH. WATE*.EU. 0.0) 2706, 701
      2706 IF (WATE*.NE.0.0) 2716,2707
      2716 I=AIT=0
      PROGRESS=.5
      GO TO 701
      2707 MULTSTEP=.75
      PROGRESS=.75
      WATEI=AXIGTS*SETTLE
      IF (I=AIT*.GT.WATEI)2717,2718
      2717 PROGRESS = 1.0
      I=AIT=0

```

PTMS.5

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```

SUPRCFIT=0.0
PFM=.9
GC TO 7C1
2718 I=AIT = I+AIT*MULSTEP
GC TO 7C1
2719 CLOSE=CLOSE+CLOSE*MULSTEP/NTGTS
I=AIT=I+AIT*MULSTEP
IF(I=AIT*GT.1.5*NTGTS) 2709,2711
2711 IF (VALERR.LT.VAL*PNS*ERRCLOS) 2709,2710
2710 IF (SUMSQERR.LT.1/(XNTGTS*NTGTS)) 2709,701
2709 PROGRESS=.0
IF (I=VERIFY*EQ.2) 2720,2721
2720 CORR = CORR2
2721 IF (INTGT = INTGT)
SIRKIN=TGTCUT
SUPRCFIT=0.0
PRINT 2722
2722 FORMAT(// * FINAL WEAPON ALLOCATIONS//)
CALL PRINTNM(4)
CALL PRINTNM(2)
GC TO 7C1
END

```

315000
316000
317000
318000
319000
320000
321000
322000
323000
324000
325000
326000
327000
328000
329000
330000
331000
332000
333000
334000
335000
336000
337000

MULCON

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MULCON
MASTCH
FILES
FILABEL
MYLABEL
ITP
MYIDENT
NOPRINT
TACRU
LCCFIL
WPNRES
WPNRTP
PAYLOAD
WPNRMP
CONTROL
DYNAMIC
FORMATS
LAMBDA
MULADJ
PRINTCON
222
NALLY
PAYOFF
PRINEED
PRINT
PRINTADD
PRIMULL
333
WADFINAL
WADOUT
WADPP
DEFENSE
FIXED
FIXEDASS
SWAT

IDENT
MULCON

05320
01415
0027
0020
0014
0010
0001
0001
0001
0001
0003
0024
01560
00620
04231
0022
00304
00302
01440
0007
00554
06464
00620
0007
0002
0001
0012
0010
12650
00410
0022
14726
00015
00120
00015
00045

EXTERNAL SYMBOLS

THEND
OBWSTOPS
Q1002100
Q1005100
Q1010100
Q1004100
Q1003100
OBWDICT
TIME
SETREAD
SETWRITE
SETABLE
RDALLMD
PRINTCON
PRINTALL
INITSET
GETDATA

5.4TS MULCON

RUARWAY
NUMGET
WRARWAY
TERMIAPE
PANTHOM
SCHTMIS
STALL
DEFALOC
PREMIUMS
XACUF
SURT
MINIF
MAXIF
TSH.
DEC.
STH.
SLC.
QNSINGUL.

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ED 0

PAGE NO.

25

5.ATS	MULCON	11/29/71	ED	0	PAGE NO.	20
C04133	ALERREST	04352 04612	04376	04376	04427	04461 04661
C00360	ALERTOLY					
P05241	ALLPHRM	01723				
C00012	ALCCGRP					
C00001	ALCCIT1	01105	01435	03023	03046	03064
C00006	ALCCIT2	01436 04131	03016	03031	03071	04131
C00006	ALCCTAR	01456	03000	03014	04106	
C00017	ALPHA					
C00002	BA5FILE					
P05170	BEGIN.	05173				
C00006	BPENFAC					
C00000	CC					
C00000	CCREL					
C00120	CEP					
C00001	CLOSE					
C00003	CLOSEW					
C00004	CNTAYLOC					
P05065	CNVRT1.	01722 04777	05004	05005		
P05242	CORFAC	02137 02324	02171	02177	02241	02301
C00010	CORR	02324 04344	02346	02350	02354	02322
C00013	CORR2	04502	04506	04507		03336
P05243	CORR2	05033				
C00045	CCST	05032				
P05244	COUN1	04477				
		03225	03621	03621	03744	02022
		01662	02506	01665	03114	01776
		02493	03504	02600	03115	03176
		03503	03565	04567	04150	04151
		04240	04254	04301	04362	04366
		04610				
P01165	CRFAT.	01633	02203	02305	02441	03311
C00037	CTMULT	03121	03152	03152	03160	03202
		03237	03507	03540	03544	03222
		03617	03625	03735	03746	03557
		03244	03245	03737	03751	03752
		01747	03560	04433	03771	03771
		02157	02232	02317		
C00040	DEC.					
X00031	DEFALOC					
C00004	DELTEFF					
C00007	DELTVAL					
C00010	DELVT					
C00002	DES10	03405				
P05245	DESINTPD	02436				
P00001	DICT.	04627	01450	01461	01470	01510
		01417	01713	01757	02043	02060
		01632	02134	02142	02160	02054
		04117	02124	02145	02202	02254
		02304	02313	02320	02363	02255
		02533	02543	02547	02610	02440
		04050	02654	02671	02714	02640
		02755	02761	02765	02774	02750
		03067	03077	03103	03253	03052
		03027	03334	03353	03401	03034
						03303
						03327
						03441

[illegible]

C00030 ICLSSN
 C00031 ICGUNT
 C00001 IBERING
 C00001 IUC
 C00007 IUPMIN
 C00051 IUMPE
 C00005 IDVRA
 P02208 IF000C1
 P02411 IF000C2
 P02731 IF000C3
 P03273 IF000C4
 P03411 IF000C5
 P03555 IF000C6
 P04123 IF000C7
 P04423 IF000C8
 P04743 IF000C9
 P05251 IFINPASS
 P05252 IFINIGT
 C00114 IFIXNEG
 C00115 IFIXEND
 C00012 IFIXTAPE
 C00000 IFIXTEMP
 C00000 IFIXTFR
 C00011 IF4
 C00055 IG
 C00000 IG1
 C00006 IG2
 C00047 IG3
 C11025 IG4
 P05253 IG5
 C00027 IMCLASS
 C00000 IMDATE
 C00051 IMEOT
 C00031 IMTYPE
 C10134 ILAW
 C00014 IMATCH
 C00550 IMIRV
 P05006 IN000C2
 P05007 IN000C5
 P05070 IN000C7
 P05071 IN000C8
 C00001 INACTIVE
 C00007 INCOMP
 C00002 INDATE
 C00001 INDEXAN
 C00051 INDEXPR
 C00033 INDYPEN

U2471

U4741
 U2732
 U2727
 U2121
 U2175
 U2443
 U2450
 U2451
 U2421
 U2420
 U2422
 U2427
 U2426
 U2102
 U2105
 U2253
 U2407
 U2404
 U2422
 U2534
 U2517

U2003
 U2003
 U2003
 U2003
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U1530
 U1003
 U1775
 U1775
 U1775
 U1775
 U1775
 U1775
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PU3002	.100007	U3001
PU3003	.100008	U3034
PU4035	.100009	U2150
PU4041	.100010	U2155
PU2445	.1001	U2151
PU2404	.1002	
PU2507	.1003	U2015
PU2520	.1201	
PU2501	.1202	U2557
PU2503	.1203	U2531
PU2556	.1204	
PU2505	.1205	U2505
PU2570	.1206	
PU2532	.1207	
PU2527	.1220	U2005
PU2700	.1221	U2106
PU2000	.1223	U2125
PU2705	.1224	U2104
PU2701	.1225	
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PU2010	.1250	U2015
PU2031	.1251	
PU2003	.1250	U2030
PU2024	.1261	U2015
PU2002	.1270	
PU3042	.1290	U3041
PU3023	.1281	U3043
PU3004	.1282	U3041
PU3044	.1283	
PU3107	.1301	U2020
PU3110	.1312	
PU3201	.1303	
PU3230	.1314	U2130
PU3241	.1305	U2133
PU3143	.1306	U2130
PU3140	.1311	U2135
PU3210	.1313	U2142
PU3214	.1323	U2141
PU3244	.1401	U217
PU3307	.1402	
PU3370	.1403	
PU3375	.1405	
PU3301	.1406	U3433
PU3444	.1407	U3450
PU3457	.1408	
PU3462	.1409	U3525
PU3526	.1410	U3525
PU3531	.1411	U3525
PU3435	.1412	U3410
PU3505	.1414	
PU3270	.1419	U3503
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PU3355 .1443	U3323	
PU3400 .1444	U3334	
PU3470 .1492		
PU3555 .1501	U3553	
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PU4021 .1503	U3741	U3741
PU4025 .1504	U4023	U4023
PU3771 .1505	U3765	U3765
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PU4011 .1507	U3765	
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PU3674 .1510	U3653	U3654
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PU3730 .1513	U4043	
PU4044 .1601		
PU4241 .1602	U4122	U4125
PU4126 .1604		
PU4055 .1605	U4164	
PU4141 .1606	U4104	
PU4143 .1607	U4142	U4221
PU4152 .1608	U4221	
PU4165 .1609	U4043	
PU4201 .1613	U4245	
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PU4227 .1615		
PU4222 .1616		
PU4240 .1709		
PU4255 .1710		
PU4262 .1711		
PU4304 .1712		
PU4307 .1713	U4251	
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PU4313 .1801	U4322	
PU4323 .1802		
PU4325 .1804	U4327	U4327
PU4331 .2001		
PU4345 .2002		
PU4355 .2003		
PU4375 .2034		
PU4410 .2101	U4407	
PU4454 .2102	U4452	U4453
PU4420 .2103	U4416	U4416
PU4426 .2104	U4422	U4422
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PU4460 .2301		
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PU303	.2303		
PU457	.2451		
PU4521	.2452		
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PU4572	.2503		
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PU1674	.503		
PU1706	.504		
PU1716	.601		
PU1750	.602		
PU1751	.603		
PU1777	.604		
PU2007	.605		
PU2024	.602		
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PU5014		.5020	
PU5017		.5017	
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P02076	801	U2046	U2074									
P02101	9000											
P02112	9001											
P02203	925											
P02151	926											
P02211	927											
P02370	930											
P02415	931											
P02223	932											
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P02364	944											
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P02132	950											
P02425	951											
P05177	ERASEM.											
P01165	..100000											
P01166	..100001											
P01167	..100002											
P01170	..100003											
P01171	..100004											
P01261	..100005											
P01227	..100006											
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CUU07 J2

CUU11 JATTHIR

CUU15 JATTHIR

PUS262 JOCCLASS

PUS263 JOCCTHEN

PUS264 JOREG

PUS265 JOTYPE

CUU121 JPASS

CUU122 JGT

CUU123 JGT

CUU124 JGT

CUU125 JGT

CUU126 JGT

CUU127 JGT

CUU128 JGT

CUU129 JGT

CUU130 JGT

CUU131 JGT

CUU132 JGT

CUU133 KRR

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C00010	IGILCAG					
C00008	IGIMULT					
C00030	IGINAME					
P05062	IGTCUT					
C00011	IGTRAD					
C00041	IGTWT					
X00001	THEND.					
C00050	TIME					
X00011	TIMEPE					
C00014	TINTFAC					
C00010	TNPALCC					
C00011	TCA					
C00045	TGARK					
C12135	TGAX					
C00012	TPMK					
P01622	TS00001.					
P01650	TS00002.					
P01710	TS00003.					
P01702	TS00004.					
P01751	TS00005.					
P02014	TS00006.					
P02003	TS00007.					
P02032	TS00010.					
P02175	TS00013.					
P02250	TS00014.					
P02277	TS00015.					
P02443	TS00020.					
P02475	TS00021.					
P02473	TS00022.					
P02517	TS00023.					
P02605	TS00024.					
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P03220	TS00026.					
P03215	TS00027.					
P03212	TS00030.					
P03210	TS00031.					
P03474	TS00034.					
P03514	TS00035.					
P03605	TS00036.					
P03602	TS00037.					
P03577	TS00040.					
P03575	TS00041.					
P04007	TS00042.					
P04012	TS00043.					
P04155	TS00044.					
P04211	TS00045.					
P04207	TS00046.					
P04245	TS00047.					
P04261	TS00050.					
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P01060	*S00004.	U1701							
P01146	*S00005.	U1750							
P01155	*S00006.	U2015	-2015						
P01177	*S00007.	U2002							
P02124	*S00010.	U2031							
P02101	*S00011.	U2103							
P02112	*S00012.	U2114							
P02166	*S00013.	U2176	-2176						
P02241	*S00014.	U2251	-2251						
P02270	*S00015.	U2300	-2300						
P02330	*S00016.	U2335							
P02354	*S00017.	U2361							
P02374	*S00020.	U2444	-2444						
P02451	*S00021.	U2476	-2476						
P02464	*S00022.	U2472							
P02507	*S00023.	U2516							
P02502	*S00024.	U2604							
P03116	*S00025.	U3146							
P03133	*S00026.	U3221							
P03150	*S00027.	U3216	-3221						
P03166	*S00030.	U3213	-3216						
P03201	*S00031.	U3207	-3213						
P03244	*S00032.	U3351							
P03370	*S00033.	U3375							
P03452	*S00034.	U3473							
P03505	*S00035.	U3513							
P03516	*S00036.	U3606	-3506						
P03533	*S00037.	U3603	-3603						
P03552	*S00040.	U3600	-3600						
P03570	*S00041.	U3574							
P03761	*S00042.	U3777							
P04002	*S00043.	U4013	-4013						
P04152	*S00044.	U4154							
P04161	*S00045.	U4212	-4212						
P04176	*S00046.	U4206							
P04241	*S00047.	U4244							
P04255	*S00050.	U4260							
P04266	*S00051.	U4312	-4312						
P04304	*S00052.	U4306	-4306						
P04335	*S00053.	U4360	-4360						
P04345	*S00054.	U4354							
P04372	*S00055.	U4404							
P04414	*S00056.	U4524	-4524						
P04447	*S00057.	U4457	-4457						
P04535	*S00060.	U4500	-4500						
P04545	*S00061.	U4554							
P04612	*S00062.	U4617	-4617						
C00000	*TFAC	U3117	-3202						
C00003	*TRATE	U2005	-2006						
C00005	*TSUM	U4706	-4706						
		U1767	-2453						
		U273	-4340						
		U1761	-1761						
		U3202	-3202						
		U2010	-2010						
		U2454	-2454						
		U4724	-4724						
		U1766	-1766						
		U3267	-3267						
		U2310	-2310						
		U3124	-3124						
		U3125	-3125						
		U3511	-3511						
		U2452	-2452						
		U4270	-4270						
		U3647	-3647						
		U3512	-3512						
		U2467	-2467						
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		U4270	-4270						
		U4665	-4665						
		U4272	-4272						
		U4272	-4272						
		U3117	-3117						
		U4666	-4666						
		U4272	-4272						

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SUBROUTINE PREMIUMS(6)
  C SUBR
  C PREMIUMS IJUN71 *****
  C CALCULATES PREMIUM AND UPRMIUM FOR WPN IN UKCUP (G)
  C CONTROL IJUN71 *****
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG, DEFALOC,
  C AND PRINTCN
  C
  COMMON/CC/STALADJ,CLOSE,WADCP,PROGRESS,QUALITY,NPASS,PRM,DELT
  1,VAL,CCOR,STIME,VERIFY,CCOR2,INCHAC
  1,MINDMAG, LAM(2), FACILRV, INREAC
  TYPE INTEGER WADCP
  TYPE REAL MINDMAG
  C
  C CONTROL *****
  C MASTER IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG,
  C RESVAL, AND DEFALOC
  C
  COMMON/MASTER/INDATE,IDENTNG,ISTOE,AKTPT,NCORR,NUPEN,RECQVEN
  1,REF,ABNDRT,NREG,NTYPE,NMULCON,NITOTBASE,NPAYLOAD,NASHIYPE,NMUTYPE
  2,NANKBAS,NCOMPLEX,NCLASS,NALERT,NTGTS,NCORTYPE,NCNTRY
  EQUIVALENCE(NGROUP,NG)(NALERT,NOTHER)
  C
  C MASTER *****
  C DYNAMIC IJUN71 *****
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG, RESVAL,
  C DEFALOC, AND PRINTCN
  C
  COMMON/DYNAMIC/IGTNAME,INDEXNG,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
  1,IGLAT,IGLONG,IGTRAD,IGC,MH(2),VC(2),K,FVAL(J),TAU(3),JHCLASS,
  2,ICLASS,INITYPE,TARDEF,INDPEN,DISTOF,DISTGB,NBLN,CMULT,VF,
  J TotM(3),PAYOFF,COST,PROFIT,DPROFIT,RIEST,IMECT,NUMFIX,
  * IGTNUM,IG(30),KORH(30),RYAL(30),PEN(30),ICARR(30),LDN
  C
  C TYPE INTEGER TOTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
  C
  EQUIVALENCE (DNARRAY,IGTNAME)
  C
  C UMTA(LDN = 45)
  C
  C DIMENSION VTU(JU)
  C EQUIVALENCE(VTU,RYAL)
  C
  C DYNAMIC *****
  C WPNREG IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNG, RESVAL, DEFALOC
  C
  COMMON/WPNREG/UCREL(20)
  C DIMENSION CC(20)
  C EQUIVALENCE (CC,REL(1),CC(1))
  C WPNREG *****
  C WPNREG IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNG, RESVAL, DEFALOC
  C
  COMMON/WPNREG/WANGE(100),CEP(100),SPEED(100),ALERIDULY(100)
  1,NALERTULY(100),WANGEDULY(100),ICLASS(100),WANGERE(100),REL(100)
  2,INECODE(100),IPENCODE(100)

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```

4  PREMIUM(G)=PREMIUM(G)-TEMP1
   UPREMIUM(G)=UPREMIUM(G)+TEMP1
   IF (SUMPP(G) .GT. 100) 6,7
6  UPREMIUM(G)=UPREMIUM(G)-TEMP1-TEMP2
7  RETURN
10 PREMIUM(G)=0.0
   UPREMIUM(G)=0.0
   RETURN
12 TEMP=PM*LANEF(G)/N*P*NS(G)
   PREMIUM(G)=TEMP*(SUMPP(G)-5*CTMULT)
   UPREMIUM(G)=TEMP*(SUMPP(G)-5*CTMULT)
   IF (PHCGRESS*CTMULT) 10,14
14 FIRST=1.0
   RETURN
16 IF (FIRST) 18,1
18 FIRST = 0.0
   SMALLAM=LANEF(1)
20 DO 24 I=2,N*GROUP
22 IF (LANEF(I).LT.SMALLAM) 22,24
24 CONTINUE
   SMALLAM = LANEF(I)
   SMALLAM = SMALLAM*.5
   GO TO 1
END

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PORTS PREMIUMS

IDENT PREMIUMS

PROGRAM LENGTH:
ENTRY POINTS
BLOCK NAMES

PREMIUMS
CONTROL
MASTER
DYNAMIC
MEMBER
WPAITPE
WPAIGRP
LAMBDA
WPAUPN

00010
00003
00022
00027
00000
00020
01500
00231
01440
10720

EXTERNAL SYMBOLS
01000100
00000101

STATUS PREMIUMS

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C00360	ALERTLY	00105	00175	00177				
P00137	BEGIN.							
C00000	CC							
C00000	CCREL							
C00120	CEP							
P00200	CL3	00020	00025					
C00001	CLOSE	00016	00010	00022	00022			
C00004	CNTRYLOC							
C00010	CORR							
C00013	CORR2							
C00045	COST							
P00207	COUNT.	00123	00124	00077	00100			
C00037	CTMULT	00072	00073					
C00007	DELTAVAL							
C00002	DESIG							
P00001	DICT.	00005	00142	00143				
C00034	DISTOF							
C00025	DISTOG							
C00000	DNARRAY							
C00133	EPREMIUM							
C00047	UPROFIT	00046	00037	00040	00045	00047	00053	00055
P00100	ENDING.	00102	00103					00063
P00000	EXIT.	00006	00040	00057				
C00370	EXPASM	00171						
C00020	FACWIRV							
P00010	FIRST	00110	00111	00114				
C00005	FLAG							
P00013	FP00001.	00151	00152					
P00032	FP00002.	00153	00154					
P00041	FP00003.	00155	00156					
P00052	FP00004.	00157	00158					
P00060	FP00005.	00163	00164					
P00005	FP00006.	00161	00162					
C00021	FVAL							
P00003	G	00013	00036	00041	00052	00061	00065	
P00002	GETPL.	00144						
P00172	GETPU.	00147	00170					
C00014	H							
P00011	I	00120	00123					
C00150	IALEMT							
C00740	ICLASS							
C00030	ICLASSN							
C00001	IDENT12							
C00055	IG							
C00025	IGX							
P00007	IMCLASS							
C00000	IMDATE							
C00051	IMEST							
C00031	IMTYPE							
C00014	ILAW							
C00014	IMATCH							
C00001	INACTIVE							
C00001	INDEAN							

DATA PREMIUMS

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00006

CU0033 INOYPEN
 PU0137 INITIAL.
 CU1750 IOTHEP
 CU2570 IPAY
 CU1440 IPENCODE
 CU1320 IRECMQUE
 CU2570 IREFUEL
 CU1130 IREG
 CU0002 ISIDE
 CU1616 ISTARAY
 CU0053 ITGT
 CU1440 ITYPE
 CU0012 IVERIFY
 PU0013 .1
 PU0060 .10
 PU0064 .12
 PU0107 .14
 PU0111 .16
 PU0113 .18
 PU0032 .2
 PU0117 .20
 PU0130 .22
 PU0132 .24
 PU0041 .4
 PU0052 .6
 PU0057 .7
 PU0203 .ERASER.
 CU0000 JTGT
 CU1616 JTGT
 CU0113 KRR
 CU0000 LAM
 PU0136 LAMA
 CU0000 LAMEF
 CU0016 LAW
 CU0303 LDN
 CU1617 LNEXT
 CU1725 LSTMAX
 CU0013 M
 CU10153 MAXCOST
 CU1622 MAXCSX
 CU10152 MAXKILL
 CU1621 MAXKILX
 CU4430 MG
 CU4230 MGRUP
 CU0015 MINDAMAG
 CU1615 MINKILL
 CU1620 MINKILX
 CU10155 MISDEF
 CU1623 MISDEX
 CU10156 MORR
 CU12445 MORRX
 CU1751 MUP
 CU1624 NACTV
 CU0023 NALEHT

00135

00112
 0012
 0011
 00105
 00106
 00112

00127
 00031
 00051
 00024

00024
 00066

0015
 0014
 00003
 00003

00066 00114 00115 00125 00130 00130

5.ATS PREMIUMS

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CU0500	NALRICLY						
CU0016	NASMTYPE						
CU0030	NBLN						
CU0010	NENDHY						
CU0022	NCLASS						
CU0026	NCNTHY						
CU0021	NCOMPLEX						
CU0004	NCONR						
CU0025	NCRTYPE						
CU0005	NDPEN						
CU0013	NG						
CU0013	NGROUP	00120				00121	
CU0020	NK						
CU0023	NCTHER						
CU0005	NPASS						
CU0015	NPAYLOAU						
CU0006	NRECOVER						
CU0007	NREF						
CU0011	NREG						
CU0003	NRTPT						
CU0020	NTANKPAS						
CU0024	NTGTS						
CU0014	NTGTBASE						
CU0012	NTYPE						
CU0054	NUM						
CU0052	NUMFIX						
CU0017	NWHDTYPE						
CU0000	NWPKS	00070				00070	
CU0044	PAYOFF						
CU0007	PEN						
CU0066	PEX						
CU0755	PEXX						
PG0165	PFO0002						
CU0020	PREMIUM	00150				00133	
		00076				00042	
		00003				00042	
		00064				00044	
PG0003	PREMIUMS						
CU0006	PRM						
CU0046	PROFIT	00064				00062	
CU0003	PROGRESS						
XU0001	GL005100	00007				00104	
XU0002	UB00100	00007				00103	
CU0004	QUALITY	00000				00004	
CU0000	RANGE						
CU0020	RANGEDEC						
CU0000	RANGERE						
CU0010	REFTIME						
CU0000	REL						
CU0000	RISK						
CU0011	RVAL						
CU0000	SBL						
PU0012	SMALLAM	00025				00131	
CU0000	SPEED	00116				00126	
CU0000	SS16					00133	
CU0000	STALACJ					00134	

S-ITS PREMIUMS

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ED

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00074

00073

00047

00027

00027

00071

00021

00026

00054

00055

00101

C11016 STAGWAY
 C00011 STIME
 C14105 STR2X
 C13265 STRX
 C00010 SUPPWP
 C00032 TARDEF
 C00021 TARFAC
 C00003 TASK
 C00024 TAU
 P00013 TEMP
 P00014 TEMP1
 P00015 TEMP2
 C00007 TGT1A
 C00010 TGTLCAG
 C00006 TGTMULT
 C00000 TGTNAME
 C00011 TGTTRAC
 C00041 TGT41
 C00011 TCA
 C00045 TCARR
 C12135 TCAX
 P00133 TS000C1
 C00021 TVALICA
 C00016 VC
 C00040 VT
 C00151 VTU
 C00012 VTC
 C00131 VTCA
 C00002 WADCP
 C00010 WLAT
 C00020 WLONG
 C00000 WRTST
 P00125 W000C1
 C10770 XPUP
 C00100 YIELD
 00003 SYMBCLS

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```

SUBROUTINE PRINTALL (ICPT)
  COUNTR PRINTALL IJUN71 *****
  CUSE PRINTCON IJUN71 *****
  C USED BY PRINTCON AND PRINTALL *****
  COMMON/PRINTCON/IFRSTPR, IJUN71(40)
  1 IINDEXPR(40) = JPASS(40) * JGTP(40) * LPASS(40) * LTGT(40) *
  1 KINTERC(40) * IJUN71(40) * IJUN71(40) * IJUN71(40) * IJUN71(40) *
  1 DIMENSION IJUN71(40,8)
  EQUIVALENCE (IJUN71, IINDEXPR)
  PRINTCON *****
  500 IF (ICPT(10PT) * EQ.3) 1,2
  1 CALL TIMEPR(-2)
  IF (ICPT(10PT) * (ICPT(18) * (ICPT(26) * 450, 300, 450
  450 PRINT 400, ICPT
  400 FORMAT(1X, 9PRINT NO., 14)
  300 CALL PHINGW(ICPT)
  CALL TIMEPR(-3)
  2 RETURN
  END

```

2

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U

EO

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PRINTALL

IUENT

J0132
J0013
J0554

PRINTALL

PRINTCON

TREND.
QUADUCT.
TIME
PRINTING
SIM.
ONSINGL.

PRINTALL

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

EXTERNAL SYMBOLS

P00064	BEGIN.	00111	00117	00123					
P00063	CNVRT1.	00046							
P00003	CRFMT.	00051							
P00001	DICT.	00015							
P00012	ENDING.	00016	00025	00043	00050	00052	00057	00067	00070
P00000	EXIT.	00015	00061	00064	00065	00065	00066	00066	
P00003	FORMAT.								
P00017	FP000C1.	00077							
P00027	FP000C2.	00101	00100						
P00031	FP000C3.	00107	00102						
P00034	FP000C4.	00103	00110						
P00045	FP000C5.	00105	00104						
P00053	FP000C6.	00076	00106						
P00126	GETPL.	00071							
P00116	GETPL.	00074	00122						
P00051	GG000C0.	00041							
C00031	ICOUNT								
C00001	IOG	00020							
C00051	IDUMPR								
C00000	IFRSTPR								
C00051	INDEXPR								
P00064	INITIAL.	00016							
P00003	LCPT	00017	00027	00032	00034	00045	00053		
P00022	.1								
P00061	.2	00021							
P00051	.300	00040							
P00041	.450	00040							
P00017	.500								
P000127	.ERASER.	00023	00026	00031	00033	00036	00036	00037	00055
P00003	..400	00044							00060
C00121	JPASS								
C00171	JTGTP								
C00361	KTGTFREQ								
C00041	LPASS								
C00311	LTGT								
C00351	MAXREC								
C00552	MPRNT								
C00501	MYPR1								
C00553	NREQ								
P00011	PF000C2.	00075							
P00013	PRNTALL	00013							
X00004	PRNTNC#	00051							
X00002	QBQDICT.	00000	00014						
X00008	QNSINGL.	00062							
X00005	STH.	00042							
X00001	TEND.	00047							
X00003	TIME	00024	00056						
	SYMBCLS								

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```
13 ICOUNT(IREQ)=0
14 IF (NPASS .GE. JPASS(IREQ) .AND. NPASS .LE. LPASS(IREQ)) 16,22
15 IF (ITGT .GE. JIGT(IREQ) .AND. ITGT .LE. LTGT(IREQ)) 18, 22
16 IF (IPNT-ALT(IQU))22,33
17 LEQ=XMOOF(IPNT,IQU)
18 IPNT(LEG)=ALT(IREQ(IREQ))
19 GO TO 22
20 ICOUNT(IREQ)=ICOUNT(IREQ)+1
21 IF (ICOUNT(IREQ) .GE. ATGT(IREQ(IREQ)) 20,22
22 IUC(IPNT)=3
23 ICOUNT(IREQ)=0
24 CONTINUE
25 MYPASS=NPASS
26 RETURN
27 END
```

15000
16000
17000
18000
19000
20000
21000
22000
23000
24000
25000
26000
27000
28000
29000

PROGRAM LENGTH

ENTRY POINTS

BLOCK NAMES

PRNTCON

PRNTCON

CONTROL

DYNAMIC

IFPRINT

IDENT

PRNTCON

J0110

J0003

J0554

J0022

J0304

J0012

EXTERNAL SYMBOLS

USQUICK.

KNOUT

P00105 BEGIN.
 C00001 CLOSE
 C00004 CNTRLLOC
 C00010 CORR
 C00013 CORR2
 C00045 COST
 P00111 COUNT.
 C00037 CTRMLT
 C00007 DELTVAL
 C00002 DESIG
 P00001 DICT.
 C00034 DISTUF
 C00035 DISTOG
 C00000 DNARRAY
 C00047 DPROFIT
 P00107 ENDING.
 P00000 EXIT.
 C00020 FACWTRV
 C00005 FLAG
 C00021 FVAL
 C00014 H
 C00030 ICLASSN
 C00031 ICCUNT
 C00001 IDC
 C00051 IDUMPR
 P00045 IF0000C1.
 P00053 IF0000C2.
 C00000 IFRSTPR
 C00000 IFRPHNT
 C00055 IG
 C00027 IMCLASS
 C00051 IMEST
 C00031 INTYPE
 C00014 IMATCH
 C00001 INDEXAG
 C00051 INDEXPR
 C00033 INDYPEN
 P00105 INITIAL.
 P00112 IPRNT
 P00113 IREQ
 C00053 IFT
 C00012 IVERIFY
 P00025 .10
 P00012 .101
 P00022 .12
 P00040 .13
 P00042 .14
 P00050 .15
 P00050 .18
 P00075 .20
 P00101 .22
 P00035 .31
 P00071 .32
 P00061 .33

00106
 00020 00021 00031 00032
 00005 00064
 00006 00104 00105 00106
 00110
 00040 00041 00071 00072 00100
 00022 00023 00076 00077
 00044 00052
 00012 00013 00067 00070
 00033 00033
 00006 00010 00015 00021 00034 00056 00061 00076
 00026 00031
 00030 00053 00053
 00037
 00047
 00055
 00073
 00044
 00000
 00057
 00060
 00061

00074

00070

00055

00052

00047

00060

00061

00061

00061

00061

00061

00061

00061

C00121	JPASS	00043	00043	
C00171	JTGT	00051	00051	
C00113	KCHR			
C00302	KIGTFREQ	00005	00073	
C00110	LAW	00002		
C00303	LUN	00005	00067	
C00114	LEG	00046	00046	
C00241	LPASS	00034	00054	
C00311	LTGT			
C00313	M	00003		
C00351	MAXREC			
C00015	MINDAMAG	00003	00016	
C00352	MPRNT	00036	00103	
P00115	MYPASS			
C00501	MYPR1			
C00036	NELN			
C00020	AK	00035	00042	00102
C00005	NPASS	00026	00045	00102
C00353	NRED			
C00034	NUM			
C00052	NUMFLX			
C00044	PAYOFF			
C00207	PEN			
C00000	PHM			
P00003	PRINTCON	00003		
C00046	PROFIT			
C00003	PROGRESS			
X00001	UBQUICI.	00000	00004	
C00004	QUALITY			
C00151	MVAL			
C00000	STALADJ			
C00011	STIME			
C00032	TARDEF			
C00021	TARFAC			
C00003	TASK			
C00024	TAU			
C00007	TGTLAT			
C00010	TGTLONG			
C00000	TGTMULT			
C00000	TGTNAME			
C00011	TGTWAO			
C00041	TGTWT			
C00045	ICAMH			
P00025	TS00002.	00017		
P00102	TS00003.	00030		
C00010	VC			
C00040	VI			
C00151	VTO			
C00012	VTC			
C00002	WADCP			
C00050	WRIEST			
P00012	WS00001.	00014		
P00022	WS00002.	00024		
P00033	WS00003.	00101		

5-4TS

PHNTCN

X00002 XMONF

00003

00155 SYMBOLS

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C

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```

CUSE      PRINT      IJUN71      *****
C          USED BY STALL AND PRINTNG

C          COMMON/PRINTING/STALPHIN
C          TYPE INTEGER STALPHIN
C          PRINT *****
C          PRINTADU IJUN71 *****
C          USED BY AND AND PRINTNG

C          COMMON/PRINTADU/IJUN71,XMU,S1,VSN1,IG2,J2,N2
C          1,N2
C          PRINTADU *****
C          PRINTADU IJUN71 *****
C          USED BY MULCON AND PRINTNG

C          COMMON/PRINTMULL/NTATTMB,PXCMULT,EKRCLOS
C          1          ,CLOSEM,DELTEFF,SDELTEFF,VALP,S,VALEK
C          PRINTMULL *****
C          NUMB3 IJUN71 *****
C          USED BY AND AND PRINTNG

C          COMMON/333/
C          1          ,VP(10),VAL(10),V(11,2),MU(10,2),SIG(10,2),
C          1          S(1,2),VS(10,2),VSN(11,2),ITCA(200),IADUTCA(200),
C          2          SIGP(200,10,2),SIGP(30,10,2),DSIG(200,2)
C          TYPE REAL MU
C          NUMB3 *****
C          MAUFINAL IJUN71 *****
C          USED BY STALL, MAG, MAUCUT, AND PRINTNG

C          COMMON/MAUFINAL/
C          1          VIP(200),DELVT(30),NUMC,IG(30),ICP,ICPS,CISPIILL
C          MAUFINAL *****
C          MAUCUT IJUN71 *****
C          USED BY STALL, MAG, MAUCUT, AND PRINTNG

C          COMMON/MAUCUT/
C          1          PVMX,IPVHMA,PPMA,IPPMX,DVHMA,IVHMA,DPMM,IPMM,NUMHMA,NM
C          1          ,IPMA,NICA,NICMAX,VTMIN,VTMAX,ALPHA,VTEF,VIZC
C          MAUCUT *****
C          PAYLOAD IJUN71 *****
C          USED BY ALLOCATE, MULCON, PREMIUMS, PRINTNG, RESVAL, DEFALOC

C          COMMON/PAYLOAD/NOROMB1(40),IAND1(40),NOROMB2(40),IAND2(40)
C          1,NAS(40),IAS(40),RCM(40),NDECCYS(40),NADECCYS(40),IIRV(40)
C          EQUVALENCE (PP,MPAYLOAD),(NCM(1),ADEG(1)),
C          1,NADECCYS(1),NDECC(1),(NADECCYS(1),
C          1,NADECC(1)),NOROMB1(1),NAND(1))
C          DIMENSION XDEG(40),NTEC(40),NADEC(40),NMHD(40)
C          PAYLOAD *****
C          LOCDEF IJUN71 *****
C          USED BY PRINTNG, RESVAL, AND DEFALOC

C          COMMON/LOCDEF/VTUX,NCHEP(200),RAT4
C          LOCDEF *****
C          MAUPN IJUN71 *****

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```

1  INDEXING, DESIG, CNTRYLOC, FLAG, TASK
   PRINT 1202
   LIMIT = XMINOF(NUM, 1)
   NEXTRA = NUM - 10
   NEXFIX = 0
C   CHECK FOR FIXED ASSIGNMENTS
C   IF (NOMFIX) 1250, 1250, 1210
C   FIND OUT HOW MANY POSITIONS ARE FIXED
C   TEST FIRST FOR DEFENSES
1210 IF (MISDEF) 1215, 1215, 1220
C   NO TERMINAL END
1215 NFIX = NOMFIX
   GO TO 1240
C   COUNT NUMBER OF POSITIONS FIXED
1220 NFIXCT = 0
   DO 1230 I = 1, NUM
     NFIX = I
     NFIXCT = NFIXCT + KMR(I)
   IF (NFIJCT - NOMFIX) 1230, 1240, 1240
1230 CONTINUE
   PRINT FIX MESSAGE
C   1240 NEXFIX = NFIX - 10
     NFIX = XMINOF(NFIX, 1)
     IPESFIX = 4H FIX
     PRINT 1241, (MESFIX, I = 1, NFIX)
C   1250 PRINT 1251, NPASS, IOP, CIMULT, PAYOFF, COST, PROFIT, DELTEFF,
     1 (IG(I), I = 1, LIMIT)
     PRINT 1252, PROGRESS, IOPSTGTMULT, SPAYOFF, SUMCOST, SPRCFIT,
     1 SDELTEFF, (KMR(I), I = 1, LIMIT)
C   CHECK IF MORE PRINTING NECESSARY
   IF (NEXTRA) 1290, 1290, 1260
C   PRINT ANOTHER SET OF INFORMATION
1260 IF (NEXFIX) 1280, 1280, 1270
1270 PRINT 1271, (MESFIX, I = 1, NEXFIX)
1280 LIMIT = LIMIT + 1
     PRINT 1281, (IG(I), I = 1, LIMIT, NUM)
     PRINT 1282, (KMR(I), I = 1, LIMIT, NUM)
1290 CONTINUE
1291 FORMAT(2X, 3H1ST, 15, 3(2X, A8), * VAL = *F8.4, * LAT = *F5.2, * LONG
     1 = *F7.2, * INDEX = *I0, * DESIG = *A5, *2, 11, * TASK = *A2)
1292 FORMAT(23X, * IOP MUL: PAYOFF COST PROFIT (*20)/VMPS*)
1291 FORMAT(80X, 10A*)
1291 FORMAT(1X, *PASS*, 15, *A, *CURRENT *I5, *F0.1, 3F9.3, F10.4, * GROUP *,
     10I4)
1292 FORMAT(1X, *MPR3G, *F5.2, * CUMULATIVE *I0, *F0.1, 3F9.3, F10.4, * COKIDC
     1M*, 10I4)
1271 FORMAT(9X, 25A4)
1281 FORMAT(* GROUP *25I4)
1292 IF (ALPHA.EQ.0.0) 1204, 1206
1204 PRINT 1205
1205 FORMAT(// * KILL NOT ACHIEVED*)
1206 RETURN
4 FMINVAL = 99999. * FMAXVAL = 0
C ***** WASTE ONE SECOND

```

```

MBARH=50000
DC 7000 LBARH=L,MBARH
7000 LBARH=L
IF (ITHDS=EW,1)3006,3008
3006 WHITE(44,30,7)
3007 FORMAT(/// 40M PASS *HCG MNR MXH V# VERR )
ITHDS=100
3008 CONTINUE
DC 3000 ITHP=L,NG
RATNAL = RNALL(ITHP)/NWPNS(ITHP)
IF (RATNAL=0)FMAXRNAL)3001,3002
3001 FMAXRNAL = RATNAL
3002 IF (RATNAL=0)FMINRNAL)3003,3004
3003 FMINRNAL = RATNAL
3004 CONTINUE
WHITE (44,3004) NPASS,PROGRESS,FMINRNAL,FMAXRNAL,VALWPNS,VALEHR
C*****IC WASTE ONE SECOND
MBARH=50000
DC 7001 LBARH=L,MBARH
7001 LBARH=L
3004 FORMAT(15,F6.2,2F6.3,2F8.3)
RETURN
4 PRINT 1081
PRINT 1005, VALWPNS ,VALEHR
1081 FORMAT(1H )
1005 FORMAT (7X,6ML,MBDA,11X,4RNALL,10X,5HRNALL,4X,11HRNALL/NWPNS,3X,8M
1VALWPNS=F13.4,3X,8M VALEHR=F13.4)
DC 40 I=L,NG
RATPRIN=RNALL(1)/NWPNS(1)
40 PRINT 1006,I,LAM(1),RNALL(1),RATPRIN
1006 FORMAT(1X,13,F10.6,3X,110,5X,F10.0,3X,F10.3)
RETURN
5 PRINT 1007,(1,1=L,1,NINTPRD)
1007 FORMAT(10X,3115)
PRINT 1008,(MIFAC(1),1=L,1,NINTPRD)
1008 F - MAT(6H MIFAC,4X,3E15.5)
PRINT 1009,(MIMATE(1),1=L,1,NINTPRD)
1009 FORMAT(7H MIMATE,3X,3E15.5)
PRINT 1010,(MISUM(1),1=L,1,NINTPRD)
RETURN
21 CONTINUE
1010 FORMAT(6H MISUM,4X,3E15.5)
PRINT 1011,(J,LA(J), (MUNSUM(J,K),K=1,NINTPRD) , (ALERREST(J,L),L=1,
1INTPRD),J=1,NYATTIRB)
1011 FORMAT(18X,2HLA,8X,6MUNSUM,27X,8MALERREST/(15,3X,E12.3,2X,3E12.3
1,2X,3F12.3))
RETURN
6 PRINT 1012,1IGI,IGNAME,IgT,1AT,IGILONG,IGTRAD,IgTMUL,I,CTMULT,NK
1,1HCLASS,1MYPE,TARDEF,MISDEF,MINKILL,MAXKILL,MAXCOST,FVAL,7AU
1012 FORMAT(15X,7MTGTC ,9X,7HTGTNAME,7X,6MTGTLAT,3X,7HTGILONG,4X,6HTG
1THAD,3X,7HTGTMLT,9X,6CTMUL,5X,17,5X,48,3X,5F10.2,110//
110X,7HIMCLASS,4X,6MIMTYPE,9X,6MTARDEF,9X,6MISDEF,4X,7HINKILL
2,3X,7HMAXKILL,4X,7HMAXCOST,10X,48,2X,48,2[10,3F10.2//
15M FVAL,3F10.2,1/5H TAU ,3F10.2)
RETURN
7 PRINT 1013,1IGI,VIC,M,VCG,M

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1013 FORMAT(11X,4H1101,7X,3HVIC,9X,1H4/5X,11U,F10.2,11O/5M VC 2F10.2/
15M M 2F10.2/)
PRINT 1014
1014 FORMAT(11X,4H 10A,2X,4H 1VALICA,2X,8H VTCA(1),2X,8H MUP(1),1X,8H
SSIG(1),2X,8H VTCA(2),2X,8H MUP(2),2X,8H SSIG(2))
DO 70 I=1,NG
70 PRINT 1015,I,TCA(I),TVALTCA(I),VTCA(I,J),MUP(I,J),SSIG(I,J),J=1,M
1)
1015 FORMAT(15,8F10.2)
RETURN
8 CONTINUE
PRINT 1016,(I,I=1,6),(I,I=1,6)
GO TO (81,82),M
80 PRINT 1017,(I,(MISK(A,I,J),A=1,6),J=1,M),I=1,NG)
GO TO 83
81 PRINT 1018,(I,MISK(A,I,1),A=1,6),I=1,NG)
1080 FORMAT(15,2X,6F9.2)
1016 FORMAT(75H MISK,2X,3HJ=1,2X,2HJ=2,519, 2X,3HJ=2,2X,2HJ=2,519)
1017 FORMAT(15,2X,6F9.2,2X,6F9.2)
83 RETURN
12 CONTINUE
PRINT 1018,NUM,NTCA,MADCP,NMAG
1018 FORMAT(75M NUM=11C,5X,5HNTCA=1,0,5X,6HADCP=110,5X,3HNMAG=110,5X,2HJ
1=110)
1019 J=MINCF(NICA+2,6)
INT 1019,(NL,NL=1,NM)
1019 J=MINCF(30X,2HNM=18,511C)
PRINT 1020,(NM,P(NL),NL=1,NM)
1020 FORMAT(4H NM,2X,6(1,1X))
PRINT 1021,(VAL(NL),NL=1,NM)
DO 574 JIND=1,M
1021 FORMAT(4H VAL,20X,6F10.4)
PRINT 1022,JIND
1022 FORMAT(73H M=15)
DO 575 JAKAY=1,6
K=0
DO 588 AIND=1,ND
K=K+2
GO TO (593,592,591,590,594,595),JAKAY
593 WORDIN=V(NIND,JIND)
GO TO 589
592 WORDIN=V(NIND,JIND)
GO TO 589
591 WORDIN=V(NIND,JIND)
GO TO 589
590 WORDIN=V(NIND,JIND)
GO TO 589
594 WORDIN=V(NIND,JIND)
GO TO 589
595 WORDIN=V(NIND,JIND)
599 CALL FORMATS
CSUBR PRINTNOMI 29SEP71 *****
IFC(K)NFORMI
588 CONTINUE
GO TO (587,586,585,584,583,582),JAKAY
587 PRINT 1023,ITILE(JAKAY),(V(NIND,JIND),NIND=1,NM)

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PAGE NO.

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GO TO 575
500 PRINT IFOR,ITITLE(JAR-Y),(S(NIND,JIND),NIND=1,NJ)
GO TO 575
505 PRINT IFOR,ITITLE(JAR-Y),(VS(NIND,JIND),NIND=1,NJ)
GO TO 575
504 PRINT IFOR,ITITLE(JAR-Y),(VSN(NIND,JIND),NIND=1,NJ)
GO TO 575
503 PRINT IFOR,ITITLE(JAR-Y),(MU(NIND,JIND),NIND=1,NJ)
GO TO 575
502 PRINT IFOR,ITITLE(JAR-Y),(SIG(NIND,JIND),NIND=1,NJ)
575 CONTINUE
574 CONTINUE
PRINT 576,V1
576 FORMAT(4H V1=F10.5)
578 RETURN
13 CONTINUE
NMAX=NCF(NICA*2.0)
1084 FORMAT(50X,2HN=18,511)
1082 FORMAT(4X,1HG,1X,4MI(0A,3X,7MI(0A,7X,3HVTP,3X,7MP(EMIU,0X,4MC
1SIG(0X,4MSIUP)
DC 6130 JH=1,M
PRINT 1022,JH
PRINT 1082
PRINT 1084,(NL,NL=1,NJ)
DC 130 I=1,NJ
130 PRINT 1025,1,1(0A(1),1A(0(0A(1),VTP(1),PREMIUM(1),DS(1,1,JH),(SIGP
1(1,NL,JH),NL=1,NJ)
6130 CONTINUE
1025 FORMAT(2I5,1J,4F10.4,OF10.4)
1025 IF(NUM,50,0) 132,135
133 CONTINUE
DC 6131 JH=1,M
PRINT 1022,JH
PRINT 1085
PRINT 1084,(NL,NL=1,NJ)
1005 FORMAT(4X,1HG,7X,3HVTD,2X,8HOP(EMIU,31X,4MSIGD)
DC 131 NJ=1,NJ
K=16(NJ)
PRINT 1026,16(NJ),VTD(NJ),DPREMIUM(K),(SIGD(NJ,NL,JH),NL=1,NJ)
1026 FORMAT(15,2F10.4,25X,OF10.4)
131 CONTINUE
6131 CONTINUE
132 RETURN
11 CONTINUE
PRINT 1030,VAL(PNS),V(LEM)
PRINT 1031,(1,0AM(1),1,1,1NG)
1030 FORMAT (7/9X,1NG,17X,3H1AM,7X,8HVAL(PNS)=F13.4,3X,7HVAL(ERF,F13.4)
1031 FORMAT (11X,10X,F10.0)
RETURN
10 CONTINUE
PRINT 1032,PROFIT,COST,TPMX,ALPHA,MINKILL,MAXKILL,MAXCOST
PRINT 1033,PVRMX,IPVRX,PPMX,IPPMX,OPMX,LOPMX
1032 FORMAT(1M,7HPCFIT=F10.2,5X,SMCCST=F10.2,5X,5MTPMX=F10.2,
1 ALPHA=F10.2/1X,8HMINKILL=F10.2,5X,8HMAXKILL=F10.2,5X,
2 8HMAXCOST=F10.2)
1033 FORMAT(1M,8HPPMX=F10.2,2H (13,1H),2X,5HPPMX=F10.2,2H (13,1H),2X

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V4 = (VTEF - VTEF) * ALPHA = 0PREMIUM(MYG)
V5 = 0
V6 = V4 - LAMEF(MYG)
V7 = 0PREMIUM(MYG)
V8 = 0PREMIUM(MYG)
42 PRINT IC39, MY9, INACTIVE(MYG), V1, LAMEF(MYG), V2, V3, V4, V5,
1 V6, V7, V8, PEX(MYG), MOMR(MYG)
1039 FORMAT(15,14,9F11.3,F0.3,15)
1139 RETURN
22 CONTINUE
91 PRINT IC40
1040 FORMAT(17,22H POTENTIAL *EAPONS)
PRINT IC38
43 93 JKE=1*NG
IF(INACTIVE(JKE))93,915
915 MY6 = JKE
V1=V1-VTP(JKE)
V2 = V1 - LAMEF(MYG)
V3 = V1 / LAMEF(MYG)
VTEF = MAX1F(VTMIN, VTP(MYG))
V4 = (VTEF - VTEF) * ALPHA + PREMIUM(MYG)
V1=VTEF*ALPHA
V6 = V4 - LAMEF(MYG)
V7 = V4 - LAMEF(MYG)
IF (V6) 920, 930, 930
920 V5 = V4 / LAMEF(MYG)
930 V5CORR = (1.0+STALADJ*VTA/(VTA-V6*PREMIUM(MYG)))/(1.0+STALADJ)
V5 = 1.0 + (V6 / LAMEF(MYG)) * V5 CORR
940 V7 = PREMIUM(MYG)
V8 = 0PREMIUM(MYG)
PRINT IC39, MY9, INACTIVE(MYG), V1, LAMEF(MYG), V2, V3, V4, V5,
1 V6, V7, V8, PEX(MYG), MOMR(MYG)
93 CONTINUE
94 TO (99,97,94,95,96)*AUCP
94 PRINT IC41,STALPRIN,G
1041 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,4H ADD,19)
94 TO 99
95 PRINT IC42,STALPRIN,I9(NE)
1042 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,7H DELETE,19)
95 TO 99
96 PRINT IC43,STALPRIN
1043 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,24H RECALL PRIOR
1 ALLOCATION)
96 TO 99
97 PRINT IC44,STALPRIN
1044 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,27H TERMINATE ST
1 ALL ALLOCATION)
97 RETURN
98 CONTINUE
6000 PRINT 6CC1,PAYOFF,CCSI,PROFIT,1,SUMPREM,IBENEFIT,PPPA,TPMA
1,UPPM
6001 FORMAT(19,40HPAYOFF,11X,4MCCSI,4X,6MPROFIT,8X,7MSUMPREM,7X,8HTBENE
1FIT,11X,4MPPMA,11X,4MIPMA,11X,4MDPPM/8F15.5/)
RETURN
C
C

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TIMING INFORMATION


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23 PRINT 2301
2301 FORMAT('OBTAINING INFORMATION',//, MULCON **, 3(' GETDATA *'),*
1, MULCON **, 2(' SUBROUTINE '), 3(' MULCON *'),* INITIALIZE PEN
2, 'ETRATION RECONSTRUCT FILE 1/3 PREPROCESS STALL DEFALCC
3 POST-PROCESS FILE 1/5 MULTIPLIER*')
CALL TIME101
RETURN
C REQUESTED DUMP
24 PRINT 2401
2401 FORMAT('OBTAINED DUMP*')
CALL ABC1
RETURN
C INACTIVE ARRAY
25 PRINT 2501
2501 FORMAT('CINACTIVE FLAUS*')
2501 PRINT 0561, (INACTIVE(L), L = 1, NG)
6501 FORMAT(20(1A,15))
RETURN
C PENETRATION PROBABILITIES
26 IF (ITGT - ITGTSAV) 2601, 2603, 2601
2601 IIGISAV = ITGT
2602 PRINT 2602, ITGTSAV
2602 FORMAT('/', 1A, 15, ' GROUP KCHR **, 2X, *PENETRATIC, PROBABILITY
IES BY COMNUCH*,
2603 PRINT 2603, NG, MGRNIG), (PENALTY), 1 = 1, NCORR)
2604 FORMAT(1A, 14, 15, 2X, 20F0.3/12X, 20F0.3)
RETURN
27 PRINT 2007, HAIM
2007 FORMAT ( 6H HAIM=, F10.2)
RETURN
28 PRINT 2008, VTUA
2008 FORMAT ( 17H IN MESVAL VT0= ,F8.3)
2014 I = 1, NG
ITPP = ITYPE(I)
IMSS = IREG(I)
IF ( NWEPI(I) .GT. V) 2010, 2014
2010 PRINT 2015, NWEPI(I), 1
2014 CONTINUE
2015 FORMAT(1A,15,* WEAPONS FROM GROUP *,13)
RETURN
END

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50-15 PRATNCW

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IDENT PRATNCW

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PRATNCW
50334
51766
50027
50022
50304
50024
51560
54231
51440
50007
56454
50620
50007
50002
50001
50012
50010
12650
50410
50022
50620
50312
14726
50015
50002
50036

EXTERNAL SYMBOLS

THRU.
GIGGSIUC
GRUUCT.
FORMATS
TIME
ACCT
AMINUF
MAILF
STH.
SLC.
ONSINGL.

P05152 A	03146	03153	03203	03210	05304	11/29/71	ED	0	PAGE NO.	13
X00006 ABOHT	04777	02732	04137	04446	04560	04561	04564			
C04133 ALERREST	02732	02732	05534	05534						
C00360 ALERTDLY	02987	02406								
C00017 ALPHA	02406	05534								
P05505 BEGIN.	05522									
C00006 BENFAC	02076	02076								
C00000 CC										
C00000 CREL										
C00120 CEP	02005									
C00001 CLOSE										
C00003 CLOSER										
C00004 CNTRLLOC										
P05154 CNVRTI.	02125	02047	02050	02051	02053	02054	02056	02057	02060	02064
	02045	02066	02067	02070	02071	02072	02073	02074	02077	02114
	02116	02117	02120	02121	02122	02123	02124	02125	02126	02127
	02233	02235	02237	02240	02241	02242	02244	02253	02267	02271
	02275	02276	02277	02301	02310	02334	02356	02377	02474	02477
	02500	02502	02503	02531	02532	02553	02555	02557	02560	02562
	02524	02645	02666	02707	02711	02720	02733	02754	02755	02757
	02760	02761	02762	02763	02764	02765	02766	02770	02771	02772
	03014	03015	03016	03052	03052	03053	03062	03063	03064	03110
	03141	03152	03202	03207	03227	03231	03233	03235	03237	03302
	03323	03343	03443	03451	03466	03474	03511	03517	03534	03557
	03565	03602	03610	03631	03654	03676	03716	03720	03721	03725
	04116	04133	04134	04136	04137	04141	04142	04143	04153	04154
	04156	04157	04160	04200	04201	04202	04203	04206	04211	04213
	04225	04227	04250	04251	04251	04254	04257	04261	04262	04322
	04325	04326	04330	04332	04347	04351	04367	04370	04371	04372
	04374	04376	04400	04410	04466	04470	04472	04474	04475	04500
	04501	04502	04503	04504	04506	04507	04526	04630	04632	04634
	04637	04640	04641	04642	04643	04644	04646	04647	04670	04703
	04706	04717	04730	04741	04742	04743	04745	04746	04750	04752
	05023	05044	05054	05056	05065	05102	05113	05140	05142	
C00010 CORR										
C00013 CORR2										
C00045 COST	02241	04134	04371	04742	02512	02512	02406	02406	02406	02417
P05557 COUNT.	02426	02426	02447	02450	02406	02406	02633	02654	02676	03006
P00031 CRFMT.	02427	02102	02406	02406	02571	02612	03242	03270	03311	03346
	02441	02515	02535	02535	03221	03221	03242	03270	03311	03332
	03031	03037	03077	03221	03221	03221	03242	03270	03311	03346
	03634	03644	03644	03756	04022	04061	04125	04163	04163	04172
	04217	04232	04241	04265	04274	04335	04354	04362	04403	04424
	04515	04524	04675	04711	04722	04733	04755	04764	04777	05032
	05047	05074	05105	05116	05151					
C00037 CTMULT										
C00007 CTSPILL	04236	02236	02762	04374						
C00004 DELTEFF	04375	04375								
C00007 DELTVAL	02243	02243								
C00310 DELVI										
C00002 DESIG	04124	02023	02026	02043	02101	02111	02131	02134	02137	02203
P00001 DICT.	01770	02225	02230	02261	02264	02316	02325	02342	02347	02367
	02211									

5-ITS PRINTING

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CU0034	DISLDF	02413	02416	04435	02440	02471	02505	02520	02523	02526	02534
CU0035	DISLDF	02504	02574	02611	02614	02632	02635	02653	02656	02674	02700
CU0036	DISLDF	02731	02776	03002	03005	03011	03021	03025	03033	03036	03036
CU0037	DISLDF	03045	03102	03124	03132	03167	03173	03220	03224	03241	03246
CU0038	DISLDF	03253	03272	03310	03313	03331	03340	03345	03347	03340	03347
CU0039	DISLDF	03362	03506	03525	03531	03550	03554	03573	03577	03616	03627
CU0040	DISLDF	03373	03651	03658	03661	03664	03667	03704	03713	03745	03766
CU0041	DISLDF	03773	04004	04004	04021	04034	04060	04074	04102	04105	04124
CU0042	DISLDF	04130	04132	04162	04166	04171	04175	04216	04222	04231	04235
CU0043	DISLDF	04240	04264	04270	04273	04316	04334	04344	04353	04356	04361
CU0044	DISLDF	04384	04405	04412	04420	04423	04443	04443	04511	04520	04523
CU0045	DISLDF	04526	04531	04624	04651	04665	04674	04700	04710	04714	04721
CU0046	DISLDF	04725	04736	04754	04761	04763	04765	04773	04776	05000	05005
CU0047	DISLDF	05010	05031	05042	05049	05051	05073	05077	05104	05110	05115
CU0048	DISLDF	05134	05511	05512							
CU0049	DISLDF	04752	04447	04447	04454	04455					
CU0050	DISLDF	04752	04447	04447	04454	04455					
CU0051	DISLDF	04771	02417	02515	02571	02675	02746	03006	03077	03221	03634
CU0052	DISLDF	04771	04163	04172	04177	04232	04241	04265	04341	04515	04733
CU0053	DISLDF	04775	05002	05032	05074	05105	05151	05506	05507	05507	05510
CU0054	DISLDF	05510									
CU0055	DISLDF	05524									
CU0056	DISLDF	06126	02459	02460	02500						
CU0057	DISLDF	02422	02462	02465	02476						
CU0058	DISLDF	02406									
CU0059	DISLDF	03416	05521								
CU0060	DISLDF	05540									
CU0061	DISLDF	02777	03239	04671	05053	05055					
CU0062	DISLDF	03236									
CU0063	DISLDF	05513									
CU0064	DISLDF	05510									
CU0065	DISLDF	02427	060000								
CU0066	DISLDF	02102	060000								
CU0067	DISLDF	02107	060000								
CU0068	DISLDF	02132	060000								
CU0069	DISLDF	02207	060000								
CU0070	DISLDF	02207	060000								
CU0071	DISLDF	02207	060000								
CU0072	DISLDF	02207	060000								
CU0073	DISLDF	02207	060000								
CU0074	DISLDF	02207	060000								
CU0075	DISLDF	02207	060000								
CU0076	DISLDF	02207	060000								
CU0077	DISLDF	02207	060000								
CU0078	DISLDF	02207	060000								
CU0079	DISLDF	02207	060000								
CU0080	DISLDF	02207	060000								
CU0081	DISLDF	02207	060000								
CU0082	DISLDF	02207	060000								
CU0083	DISLDF	02207	060000								
CU0084	DISLDF	02207	060000								
CU0085	DISLDF	02207	060000								
CU0086	DISLDF	02207	060000								
CU0087	DISLDF	02207	060000								
CU0088	DISLDF	02207	060000								
CU0089	DISLDF	02207	060000								
CU0090	DISLDF	02207	060000								
CU0091	DISLDF	02207	060000								
CU0092	DISLDF	02207	060000								
CU0093	DISLDF	02207	060000								
CU0094	DISLDF	02207	060000								
CU0095	DISLDF	02207	060000								
CU0096	DISLDF	02207	060000								
CU0097	DISLDF	02207	060000								
CU0098	DISLDF	02207	060000								
CU0099	DISLDF	02207	060000								
CU0100	DISLDF	02207	060000								

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P2500 66000147 02487
P2524 66000157 02516
P2535 66000167 02524
P2555 66000177 02544
P2572 66000207 02572
P2583 66000217 02582
P2594 66000227 02593
P2597 66000237 02594
P2748 66000247 02675
P2800 66000257 02747
P2831 66000267 03007
P2837 66000277 03031
P2873 66000307 03043
P29125 66000317 03100
P29170 66000327 03130
P29221 66000337 03171
P29242 66000347 03222
P29270 66000357 03251
P29311 66000367 03270
P29332 66000377 03311
P29346 66000407 03336
P29357 66000417 03426
P29503 66000427 03461
P29528 66000437 03504
P29551 66000447 03527
P29574 66000457 03552
P29587 66000467 03575
P29634 66000477 03625
P29657 66000507 03647
P29685 66000517 03653
P29705 66000527 03655
P29746 66000537 03711
P29774 66000547 03764
P29802 66000557 03774
P29822 66000567 03782
P29861 66000577 03792
P29893 66000607 03792
P29925 66000617 04103
P29946 66000627 04126
P29963 66000637 04145
P29972 66000647 04164
P29997 66000657 04173
P29999 66000667 04220
P29999 66000677 04233
P29999 66000707 04242
P29999 66000717 04266
P29999 66000727 04314
P29999 66000747 04342
P29999 66000757 04354
P29999 66000767 04362
P29999 66000777 04403
P29999 66000787 04416
P29999 66000797 04451
P29999 66000807 04516

15-15 PM 1.04

02600	1240	02157	02173
02620	1250	02150	02151
02621	1260		
02623	1270		
02643	1280	02322	
02645	1290	02321	
02655	13	02005	
02671	130		
02671	131	02127	
02671	132	02137	
02675	133		
02682	134		
02684	14	02005	
02685	15	02007	
02686	16	02011	
02687	17	02012	
02688	18	02013	
02689	19	02014	
02690	20	02015	
02691	21	02016	
02692	22	02017	
02693	23	02018	
02694	24	02019	
02695	25	02020	
02696	26	02021	
02697	27	02022	
02698	28	02023	
02699	29	02024	
02700	30	02025	
02701	31	02026	
02702	32	02027	
02703	33	02028	
02704	34	02029	
02705	35	02030	
02706	36	02031	
02707	37	02032	
02708	38	02033	
02709	39	02034	
02710	40	02035	
02711	41	02036	
02712	42	02037	
02713	43	02038	
02714	44	02039	
02715	45	02040	
02716	46	02041	
02717	47	02042	
02718	48	02043	
02719	49	02044	
02720	50	02045	
02721	51	02046	
02722	52	02047	
02723	53	02048	
02724	54	02049	
02725	55	02050	
02726	56	02051	
02727	57	02052	
02728	58	02053	
02729	59	02054	
02730	60	02055	
02731	61	02056	
02732	62	02057	
02733	63	02058	
02734	64	02059	
02735	65	02060	
02736	66	02061	
02737	67	02062	
02738	68	02063	
02739	69	02064	
02740	70	02065	
02741	71	02066	
02742	72	02067	
02743	73	02068	
02744	74	02069	
02745	75	02070	
02746	76	02071	
02747	77	02072	
02748	78	02073	
02749	79	02074	
02750	80	02075	
02751	81	02076	
02752	82	02077	
02753	83	02078	
02754	84	02079	
02755	85	02080	
02756	86	02081	
02757	87	02082	
02758	88	02083	
02759	89	02084	
02760	90	02085	
02761	91	02086	
02762	92	02087	
02763	93	02088	
02764	94	02089	
02765	95	02090	
02766	96	02091	
02767	97	02092	
02768	98	02093	
02769	99	02094	
02770	100	02095	

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P00720	..1020	U3573	
P00731	..1021	U3314	
P00737	..1022	U3341	
P01012	..1025	U3714	
P01037	..1026	U3035	
P01045	..1030	U4075	
P01066	..1031	U4106	
P01073	..1032	U4131	
P01132	..1033	U4151	
P01333	..1034	U4345	
P01352	..1035	U4J57	
P01374	..1036	U4365	
P01412	..1037	U4306	
P01423	..1038	U4421	
P01440	..1039	U4404	
P01455	..1040	U4521	
P01404	..1041	U4006	
P01501	..1042	U4701	
P01510	..1043	U4715	
P01534	..1044	U4725	
P00022	..1050	U3174	
P00477	..1081	U2521	
P00702	..1082	U3602	
P00753	..1084	U3070	
P01020	..1085	U3777	
P00110	..1201	U2112	
P00147	..1202	U2135	
P00250	..1205	U2414	
P00102	..1241	U2212	
P00166	..1251	U2231	
P00207	..1252	U2265	
P00230	..1271	U2326	
P00234	..1281	U2350	
P00442	..1282	U2370	
P00065	..133	U2044	
P00331	..2000	U2024	
P01741	..2007	U5100	
P01746	..2008	U5111	
P01755	..2015	U5135	
P01227	..2200	U4223	
P01477	..2201	U4271	
P01323	..2204	U4317	
P01011	..2301	U4701	
P01066	..2401	U4774	
P01073	..2501	U3006	
P01708	..2602	U3043	
P01727	..2604	U3052	
P 70	..3004	U472	
P00257	..3007	U4336	
P01170	..5001	U4107	
P01423	..5003	U4176	
P01242	..5005	U4236	
P01272	..5008	U4245	
P00745	..570	U3030	

[illegible]

[illegible]

DATA

PR-INC

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ED 0

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P04016 TS00056
P04063 TS00057
P04055 TS00060
P04121 TS00061
P04337 TS00062
P04313 TS00063
P04653 TS00064
P05026 TS00065
P05070 TS00066
P05147 TS00067
C00021 TVALTCA
P05012 UP0006C

P05032 UP00063
P05040 UP00064
P05064 UP00065

P05303 UP00066
P05320 UP00067

P05330 UP00068
P05353 UP00069

P05371 UP00070
P05407 UP00071
P05416 UP00072
P05430 UP00073
P05442 UP00074
P05452 UP00075
P05464 UP00076
P05476 UP00077
C00024 V
P05620 V1
P05621 V2
P05622 V3
P05623 V4
P05624 V5
P05625 V5CCH
P05626 V6
P05627 V7
P05630 V8
C00012 VAL
C00007 VALENR
C00008 VALWPKS
C00010 VC
C00016 VS
C00172 VSN
C00005 VSN1
C00040 VT
P05031 VTA

02103
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04336
05233
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05266
05267
05311
03741
04010

03536
05361
05401
05402
05414

SATS	PRINTING	11/29/71	ED	C	PAGE NO.	27
C00151	VTD	U4040	U4444			
P05032	VTDEF	U4445				
C00000	VTDX	U5112				
C00020	VTEF	U4446	U4563	U4564		
C00016	VTMAX					
C00015	VTMIN	U4444				
C00012	VTC	U2120	U4327	U4366	U4366	
C01131	VICA	U3061				
C00000	VTP	U3722				
P05033	VTEF	U4556	U4542	U4551	U4555	
C00021	VIZC					
C00002	WADCP	U3232	U4655	U4655		
C00010	WLAT	U2050				
C00020	WLONG	U4051				
C00000	WCRDIA	U3371	U3375	U3401	U3411	U3415
C00050	WTEST	U3415				
P02033	W5000C1.	U2105				
P02165	W5000C2.	U2177				
P02216	W5000C3.	U2223				
P02251	W5000C4.	U2257				
P02306	W5000C5.	U2314				
P02333	W5000C6.	U2340				
P02354	W5000C7.	U2362				
P02375	W5000C8.	U2403				
P02427	W5000C9.	U2430				
P02451	W5000C10.	U2466				
P02513	W5000C11.	U2514				
P02541	W5000C12.	U2570				
P02602	W5000C13.	U2607				
P02622	W5000C14.	U2630				
P02643	W5000C15.	U2651				
P02694	W5000C16.	U2672				
P02716	W5000C17.	U2724				
P02731	W5000C18.	U2737				
P02706	W5000C19.	U2743				
P03063	W5000C20.	U3076				
P03080	W5000C21.	U3070				
P03107	W5000C22.	U3113				
P03116	W5000C23.	U3122				
P03150	W5000C24.	U3155				
P03165	W5000C25.	U3161				
P03165	W5000C26.	U3165				
P03205	W5000C27.	U3212				
P03201	W5000C28.	U3216				
P03260	W5000C29.	U3265				
P03300	W5000C30.	U3306				
P03321	W5000C31.	U3327				
P03336	W5000C32.	U3324				
P03350	W5000C33.	U3350				
P03356	W5000C34.	U3427				
P03447	W5000C35.	U3455				
P03472	W5000C36.	U3500				
P03515	W5000C37.	U3523				

PU3540	WS00046	UJ546	U3540
PU3563	WS00047	UJ571	U3571
PU3506	WS00050	UJ614	U3614
PU3647	WS00051	UJ755	U3755
PU3675	WS00052	UJ702	U3702
PU3711	WS00053	UJ751	U3751
PU3735	WS00054	UJ743	U3743
PU3784	WS00055	UJ070	U4070
PU4012	WS00056	UJ017	U4017
PU4026	WS00057	UJ064	U4064
PU4050	WS00060	UJ056	U4056
PU4113	WS00061	UJ122	U4122
PU4300	WS00062	UJ340	U4340
PU4429	WS00063	UJ514	U4514
PU4534	WS00064	UJ654	U4654
PU5021	WS00065	UJ027	U5027
PU5063	WS00066	UJ071	U5071
PU5122	WS00067	UJ150	U5150
CU0000	MTFAC	UJ223	U2223
CU0003	MTBATE	UJ644	U2644
CU0006	MTSCM	UJ665	U2665
CU0360	ZDEG	UJ140	U2202
CU0007	AMINCF	UJ203	
CU0003	AMJ		
CU0776	AMUP		
CU3100	YIPID		
	U1353 SYMBCLS	U3245	U3640

```

SUBROUTINE PUNCHM
  PUNCHM :JUN71 *****
C
C THIS SUBROUTINE PUNCHES LAGRANGE MULTIPLIER VALUES.
C
C   NUMB2  JUN71 *****
C   USED BY ALLOCATE, MULCON, MAG, AND PRINTNG
C
C
C   COMMON/22/
C   1  MIFAC(3),MTRATE(3),MISUM(3),MATTRIB(6,200),MUNSUM(310,3)
C   2  MALLERREST(310,3),MAL310,MXATTRIB
C   TYPE REAL LA
C   NUMB2 *****
C   MASTER  JUN71 *****
C   USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG,
C   RESVAL, AND DEFALOC
C
C   COMMON/MASTER/IMDATE,IDENTNG,ISIDE,MNPT,NCORR,NCPEN,MRECOVER
C   1  MNREF,MNDRY,MNEG,MNTYPE,MNGROUP,MNTOBASE,MNPAYLOAD,MNASHTYPE,MNMDTYPE
C   2  MNANKRAS,MNCOMPLEX,MNCLASS,MNALER,MNLTGTS,MNCRITY,MNENTRY
C   ELMVALENCE(MNGROUP,MN) (MALER,MNOTHER)
C   MASTER *****
C   MACHINE  JUN71 *****
C
C   COMMON /MACHINE/ IREAU, IRRIT, ICOM, IPUNCH
C
C   MACHINE *****
C
C   I = 1
C   METRO = 3MALL
C   LCU = 2
C   WRITE(IRRIT, 1) METRO, I, LA(LCU)
C   WRITE(IPUNCH, 2) METRO, I, LA(LCU)
C   1  FORMAT(1X, A6, 2X, I10, F10.5)
C   2  FORMAT(2X, 2X, I10, F10.5)
C   METRO = 5MGRPLP
C   DC 100 I = 1, NG
C   LCU = 2 + I
C   WRITE(IRRIT, 1) METRO, I, LA(LCU)
C   100 WRITE(IPUNCH, 2) METRO, I, LA(LCU)
C   LCU = 2 + NG
C   METRO = 6MREGION
C   UC 200 I = 1, NREG
C   LCU = LCU + 1
C   WRITE(IRRIT, 1) METRO, I, LA(LCU)
C   200 WRITE(IPUNCH, 2) METRO, I, LA(LCU)
C   LCU = LCU + NREG
C   METRO = 5MCLASS
C   UC 300 I = 1, NCLASS
C   LCU = LCU + 1
C   WRITE(IRRIT, 1) METRO, I, LA(LCU)
C   300 WRITE(IPUNCH, 2) METRO, I, LA(LCU)
C   LCU = LCU + NCLASS
C   METRO = 4MNTYPE
C   DC 400 I = 1, NTYPE
C   LCU = LCU + 1

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2

```
WRITE (UNIT, 1) METRO, I, LA(LCU)
DO WRITE(IPUNCH, 2) METRO, I, LA(LCU)
LCU = LCU + 1
WRITE(SHOWER)
DO 500 I = 1, NCTH
LCU = LCU + 1
WRITE(UNIT, 1) METRO, I, LA(LCU)
DO WRITE(IPUNCH, 2) METRO, I, LA(LCU)
CALL PRATNC(1)
RETURN
END
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DATA PUNCH

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PUNCH

222
MASTER
MACHINE

EXTERNAL SYMBOLS

THRU
QUADICT.
PANTON
SIM.
UNSLIND.

IDENT

0357
00027
06464
00027
00004

PUNCH

DATE	PUNCH	11/29/71	ED	0	PAGE NO.	5
P00354	LCU	00104	00146	00162	00200	00225
P00355	LCUD	00173	00236	00242	00277	00305
P00356	METRO	00070	00131	00143	00157	00206
C00463	MAXATTIRB	00251	00302			
C00023	NALENT	00237	00314			
C00016	NASHTYPE					
C00010	NBNDRY					
C00022	NCLASS					
C00026	NCMTRY					
C00021	NCOMPLEX					
C00004	NCSRK					
C00025	NCSRTYPE					
C00005	NUPEN					
C00013	NG					
C00013	NGROUP					
C00023	NOTHER					
C00015	NPAYLOAD					
C00006	NRECOVER					
C00007	NREF					
C00011	NREG					
C00003	NRTPT					
C00020	NTANKBAS					
C00024	NTGTS					
C00014	NTOTBASE					
C00012	NTYPE					
C00017	NWHDTYPE					
X00003	PRNTING					
P00027	PUNCHM					
X00002	UBODICT.					
X00005	UN-SINGL.					
C00271	MUNSUM					
X00004	STH.					
X00001	THEND.					
P00125	TS00001.					
P00167	TS00002.					
P00032	TS00003.					
P00075	TS00004.					
P00040	TS00005.					
P00072	TS00001.					
P00134	TS00002.					
P00177	TS00003.					
P00042	TS00004.					
P00305	TS00005.					
C00000	WTFAC					
C00003	WTRATE					
C00006	WTSUM					
	W0132 SYMBCL5					

```

SUBROUTINE MUALCND
  CSUBR  MUALCND  LJUN71  *****
  C
  C THIS SUBROUTINE READS THE INPUT PARAMETER CARDS FOR THE ALLOCATE
  C OPTION
  C
  CUSE
    TAPES  LJUN71  *****
    COMMON/FILES/TGFILE(4),BASFILE(2),MSLTIME(2),ALCOTAR(2),
    1      TMPALOC(2),ALDGRP(2),STRKFL(2),EVENTAPE, PLANTAPE
  C
    TYPE INTEGER TGFILE, BASFILE, ALCOTAR, TMPALOC,
    1      ALDGRP, STRKFL, EVENTAPE, PLANTAPE, ALCOT2
  C
    COMMON/FILABEL/ INIDENT, INRUNNG, INDATE, INFORM,
    1      INSECR, INTIME, INLNGLTH, INCOMM(5)
  C
    COMMON/PLABEL/ MYFCHMT, MYSECR, MYLNGLTH, MYCOMM(5)
    COMMON/ITP/ITP
    COMMON/MYIDENT/ MYIDENT
    COMMON/ASPRINT/ NOPRINT
    COMMON/TWCRD/ITWCRD
    EQUIVALENCE (ITWCRD, ITWCRD)
  C
    COMMON/LOCFIL/ PNTGT,ALCOT1,IMPMSL
  C
    TYPE INTEGER PNTGT, ALCOT1
  C
    DATA (ALCOT1 = -3), (IMPMSL = 1)
  C
    EQUIVALENCE (ALCOT2, ALCOTAR(1))
  C
  CEND *****
  C
  CUSE
    MACHINE  LJUN71 *****
  C
    COMMON /MACHINE/ IREAU, IMRIF, ICOMM, IPUNCH
  C
  CEND *****
  C
  CUSE
    ICOUNMY  LJUN71 *****
  C
    THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
    SINCE IT REDEFINES COMMON /MADWPN/, IT SHOULD NEVER BE USED IN
    CONJUNCTION WITH COMMON /MADWPN/.
  C
    COMMON /MADWPN/ INPUT(10), NVARS, NAMES(40), INVALU(2*40),
    1  INDEX1(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
    2  MYFCHM(100), MYTYPE(100), MYVAL(100), FVAL(100),
    3  MYGOTS(100), NDEFLT, FILLER(5560)
  C
    EQUIVALENCE (MYVAL, FVAL)
  C
  CEND *****
  C
  CUSE
    CONTROL  LJUN71 *****
    USED BY MUALCON, PREMIUMS, STALL, WAD, MADCUT, PNTINCH, DEFALOC,

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C      IFIXEND  ASSIGNMENT INPUT INDEX
C      SAVEFIX  WRITE MSRTIME FILE ONLY IF TRUE
C      IADD     IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C              IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C              IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C                      CARD INPUT
C
C      COMMON/FIXEDASS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFIAR
C
C      IFIXTEMP  TEMPORARY STORAGE AREA
C      IFIXTAPE  LOGICAL UNIT NUMBER - FILEHANDLER FILE
C      IBCD     LOGICAL UNIT NUMBER - WCD FILE
C
C      NLFIAR   NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C
C      CEND     FIXED *****
C
C      CUSE     SMAT 1JUN71 *****
C
C      COMMON/SMAT/SMAT(6*5)*LSMAT,SMATMIRV(3),SMNCHIRV(3)
C
C      DATA(LSMAT = 30)
C      SMAT *****
C      DIMENSION LABEL(5)
C      DATA(LABEL = 8H DBL, 8H CC, 8H REL, 8H PEN,
C      1 8H SIK)
C
C      DIMENSION IFORMAT(5)
C      DATA (IFORMAT = 8H(1H00A8.06H = 0.01H 08H 0Y 0.3H08))
C      DIMENSION NAMPRNT(5)
C
C      DATA (NAMPRNT = 8HFIRSTPAS, 7MFIRSTAR, 8HLASTPASS, 6HLASTAR,
C      1 7H(TGTNEW))
C
C      DIMENSION IOPFIX(3), ISUBFIX(5)
C      DATA (IOPTFIX = 6HFIXGT, 7HNOFIXES, 6HFIXNOW)
C      DATA (ISUBFIX = 4HTAPE, 7HBCDTAPE, 4HDISK, 6HNCSAVE, 7HADDONLY)
C      NUEFLT = 50
C      INT = 2H18
C      IF = 4HF8.4
C      IA = 2H08
C      NSAVPR = 1
C      IAMFIX = 0
C
C      SET UP PARAMETER DEFAULTS
C
C      DC 10 I = 1, NUEFLT
C      FVAL(I) = 0.0
C      MYFORM(I) = IF
C      MYCTC(I) = 1
C      MYTYPE(I) = 7HDEFAULT
C      10 CONTINUE
C
C      MYNAME(I) = 6HIMATCH
C      MYFORM(I) = INT

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C	MYGCTC(1) = 2	56000
C	MYNAME(2) = 9MINTPRD	57000
C	FVAL(2) = 2.0	58000
C	MYNAME(3) = 9MATICINT	59000
C	FVAL(3) = 2.0	60000
C	MYNAME(4) = 9MSNSTVTY	61000
C	FVAL(4) = 0.1	62000
C	MYNAME(5) = 9HFSNSTVTY	63000
C	FVAL(5) = 1.0	64000
C	MYNAME(6) = 5MGCLOSE	65000
C	FVAL(6) = 1.05	66000
C	MYNAME(7) = 8MUDELTVL	67000
C	FVAL(7) = .005	68000
C	MYNAME(8) = 3MPRM	69000
C	FVAL(8) = .5	70000
C	MYNAME(9) = 9MSTALADJ	71000
C	FVAL(9) = .5	72000
C	MYNAME(10) = 8MCLSE	73000
C	FVAL(10) = 4.0	74000
C	MYNAME(11) = 7MUQUALITY	75000
C	FVAL(11) = .5	76000
C	MYNAME(12) = 4MCCORR	77000
C	FVAL(12) = .5	78000
C	MYNAME(13) = 6MTARFAC	79000
C	FVAL(13) = .1	80000
C	MYNAME(14) = 7MIVERIFY	81000
C	MYFORM(14) = INT	82000
C	MYGCTC(14) = 2	83000
C	MYNAME(15) = 5MCCORR2	84000
C	FVAL(15) = 1.0	85000
C	MYNAME(16) = 6MSETTLE	86000
C	FVAL(16) = 1.0	87000
C	MYNAME(17) = 7MBENFAC	88000
C	FVAL(17) = 1.0	89000
C	MYNAME(18) = 7MBRCLOS	90000
C	MYFORM(18) = 4MFB.6	91000
C	FVAL(18) = .001	92000
C	MYNAME(19) = 4MPKTX	93000
		94000
		95000
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		100000
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FVAL(19) = .95
      NAUPI
MYNAME(20) = SMADPX
      MINDAMAG
MYNAME(21) = BMINDAMAG
      RA
MYNAME(22) = GMLCMFAC
MYNAME(23) = THHIGHFAC
      PKA
MYNAME(24) = RMYRBLCL
MYNAME(25) = RMYRBMHIGH
      LAW
MYNAME(26) = EHLAW
MYFORM(26) = 1A
MYGOTO(26) = 3
MYVAL(26) = BM POWER
      TINTFAC
MYNAME(27) = TINTINTFAL
FVAL(27) = 1.0
      SMAT
THIS ARRAY USES ELEMENTS 28-57
      DC 20 I = 28, 57
      MYNAME(1) = 44SMAT
20 CONTINUE
      FVAL(29) = FVAL(30) = FVAL(32) = FVAL(37) = FVAL(38) = FVAL(43)
1      FVAL(48) = .10
      FVAL(35) = FVAL(44) = FVAL(49) = FVAL(50) = .2
      FVAL(41) = .05
      FVAL(36) = .30
      FVAL(31) = .40
      FACHIRV
      MYNAME(58) = THFACHIRV
      SET UP STANDARD PRINTS
      DC 30 I = 1, MAXREQ
      INDEXPR(1) = 0
      JPASS(1) = JTGT(I) = KTGFREQ(1) = 1
      LPASS(1) = LTGT(I) = 9999
30 CONTINUE
      INDEXPR(1) = 1
      INDEXPR(2) = 2
      INDEXPR(3) = 4
      INDEXPR(4) = 10
      NREQ = 4
      DC 40 I = 1, 5
      MYPR(1) = TRUEFAULT
40 CONTINUE
      KTGFREQ(3) = 50
      HEAD PARAMETER CARDS
      WRITE(UNIT, 99)
99 FORMAT(10XEN INPUT PARAMETER CARDS FOR OPTION ALLOCATE*)
100 HEAD (HEAD, 101) INPUT

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101 FORMAT (IQA8)
WRITE(IIRIT, IJ2) INPUT
102 FORMAT(/IX, IQA8)
CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1,
1 INDEX2, INDEX3, MORE)
IF (NVARS) 200, 2000, 110
C
C INTERPRET INPUT
110 IAMFIX = JLE(NAMES(1), IOPTFI, 3)
IF (IAMFIX) GO TO 2000
DO 1000 I = 1, NVARS
KKK = I
IIST = NAMES(I)
IAM = ILE(IIST, MYNAME, NOFLT)
IF (IAM) 120, 120, 150
CHECK FOR PRINT
120 IF (IIST = SHPRINT) 130, 200, 130
130 IAM = ILE(IIST, NAMPRINT, 5)
IF (IAM) 135, 135, 280
135 IF (IIST = THNGPRINT) 140, 300, 140
ENGR = "G MATCH
140 WRITE(IIRIT, I41) IIST
141 FORMAT(/Z5X, " UNABLE TO DECRYPT VARIABLE NAME ",
1 A8.0. INPUT REQUEST IGNORED*)
GO TO 1000
C INPUT PARAMETER
150 IF (IIST = EQ, 4SHWAT) IAM = IAM + INDEX1(I) + (6 * (INDEX2(I) - 1)) - 1
MYTYPE(IAM) = 00 INPUT
MYFRM = MYGOIC(IAM)
GO TO (151, 152, 153), MYFRM
FLGATING POINT
151 DECODE(10, 1001, INVALU(I, KKK)) FVAL(IAM)
GO TO 1000
C INTEGER
152 MYVAL(IAM) = NUMGET(INVALU(I, KKK)) + 161
GO TO 1000
C ALPHANUMERIC
153 MYVAL(IAM) = INVALU(I, KKK)
GO TO 1000
C
C PDALCHD1 1JUN71 *****
CSUBR PRINT REQUEST
C
C 200 IIST = NUMGET(INVALU(I, KKK)) + 161
CHECK FOR REQUEST IN RANGE
IF (IIST) 250, 250, 210
210 IF (IIST = MPRINT) 220, 220, 215
215 I12 = IIST - 100
IF (I12 = (MPRINT + 1 - I12)) 250, 250, 220
220 NREQ = NREQ + 1
IF (NREQ = MAXREQ) 240, 240, 230
TO MANY REQUESTS
230 WRITE(IIRIT, 231) MAXREQ
231 FORMAT(/Z5X, " TOO MANY PRINT REQUESTS. ONLY FIRST ",
1 I3, " PROCESSED")
NREQ = NREQ - 1

```

```

      GO TO 1000
C
  240 INDEXP(NREQ) = ITEST
      MYPRM(NREQ) = OM INPI
      NSAVPR = NREQ
      GO TO 1000
C
      REQUEST OUT OF RANGE
  250 WRITE(IWRIT, 251) ITEST
  251 FORMAT('//10A:PRINT REQUEST NUMBER *,110,* IS OUT OF RANGE. REQU
      TEST IGNORED')
      NSAVPR = NREQ + 1
      GO TO 1000
C
      PRINT REQUEST INFORMATION
  260 KKKK = IAW + 1
      IUUMPR(NSAVPR, KKKK) = NUMGET(INVALU(I, KKKK), 16)
      GO TO 1000
C
      PRINT CANCELLATION REQUEST
C
  300 ITEST = NUMGET(INVALU(I, KKKK), 16)
      IF (ITEST) 1000, 1000, 310
  310 IF (ITEST) = MPNMT) 320, 320, 1000
      SEARCH FOR PRINT TO BE CANCELLED
  320 DO 330 JK = 1, NREQ
      IF (INDEXPR(JK) = ITEST) 330, 340, 330
  330 CONTINUE
      GO TO 1000
C
  340 MYPRM(JK) = BMRMOVED
      JPASS(JK) = 999999
      GO TO 1000
C
      1000 CONTINUE
      1001 FORMAT(1600)
      IF (MORE) 2000, 2000, 100
C
      PRINT RESULTS
C
  2000 WRITE(IWRIT, 2001)
  2001 FORMAT('USER INPUT PARAMETERS FOR OPTION ALLSCATE')
C
      PRINT REQUESTS
      WRITE(IWRIT, 2002)
C
  2002 FORMAT('//27A:PRINT REQUESTS*//5X, 7HREQUEST,*X, 5H1PASS, 6X,
      1 4H1GT, 5A, 5HLPASS, 6A:4H1GT, 6A:4FREQ 40UE*')
      DO 2010 I = 1, NREQ
      WRITE(IWRIT, 2003) (IUUMPR(I, KJL), KJL = 1, 6), MYPRM(I)
  2003 FORMAT(16110, 2X, A8)
      2010 CONTINUE
C
      WRITE (IWRIT, 2011)
  2011 FORMAT('//25A:OTHER PARAMETERS')
      DO 2100 I = 1, NUFLY
      IF (CMAT(3) = MYFORM(I)
      WRITE(IWRIT, 100MAT) MYNAME(I), MYVAL(I), MYTYPE(I)

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1607

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```

WRITE(INRIT, 102) INPUT
IADD = C
IFIXTAPE = 0
IUCD = IREAU
SAVEFIX = .TRUE.
CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1, INDEX2, INDEX3, MORE)
IAM = ITLE(NAMES(1), ISUBFIX, 3)
IF (IAM) 3010, 3010, 3020
      ERROR
C
3010 WRITE(INRIT, 3011) NAMES(1)
3011 FORMAT(/10A, 'CANNOT DECIPHER COMMAND *1A8.*. COMMAND FIXTGT ASS
      LUED*)
      GO TO 3030
C
3020 GO TO (3030, 3040, 3050), IAM
C
3030 IF TGT = 9999 FIXTGT COMMAND
      RETURN
C
3040 IADD = -1
      NOFIXES
      SAVEFIX = .FALSE.
      IF TGT = 9999
      RETURN
      FLINCM
C
3050 IADD = -1
      IAMFIX = 2
      GO TO 3056
C
3055 CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1, INDEX2, INDEX3,
      MORE)
      1
3056 IF (NVARS-IAMFIX + 1) 3060, 5000, 3060
3060 DO 4000 I = IAMFIX, NVARS
      IAM = ITLE(NAMES(I), ISUBFIX, 5)
      KKK = I
      GO TO (3070, 3080, 3110, 3120, 3130, 3140), IAM + 1
C
3070 WRITE(INRIT, 141) NAMES(1)
      ERROR
      GO TO 4000
      TAPE
C
3080 IIP = NUMGET(INVALU(1, KKK), 16)
      MYIDNT = 8 * IIP * IREAU
      IF (IIP) 3090, 3090, 3100
3090 IIP = 9
3100 IFIXTAPE = IIP
      CALL SETREAD
      GO TO 4000
      BCUTAPE
C
3110 IUCD = NUMGET(INVALU(1, KKK), 16)
      REMIND IUCD
      GO TO 4000
      DISK
C
3120 MYIDNT = INVALU(1, KKK)
      IIP = -9
      GO TO 3100
C
3130 SAVEFIX = .FALSE.

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PTNS.5

```

C      GC TO 4000      ADDONLY
      3100 IADD = +1
      4000 CONTINUE
      IF (MORE) 5000,5000,4010
      4010 READ(HEAD, 101) INPUT
      WRITE(UNIT, 102) INPUT
      IAMFIX = 1
      GC TO 3055
      HEAD FIRST FIXED ASSIGNMENT CARD
      5000 IF (IFIXTAPE) 5100, 5200, 5100
      5100 ITP = IFIXTAPE
      CALL ROADWAY(IFIXTEMP, 10)
      DECODE(174,5201,(FIXTEMP) IS(1), IS(2), (ISTORE(J),J=1,8)
      GC TO 5300

C      5200 READ (IBCG, 5201)
      5201 FORMAT(A8,A2,8A8)
      5300 IFGT = NUNGET(15(1), 10)
      RETURN
      END
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RUALCRU

IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

J2257
J0401
J0020
J0014
J0010
J0001
J0001
J0001
J0001
J0001
J0003
J0004
14251
J0022
J0007
J0054
J0010
J0015
J0012
J0120
J0015
J0045

RUALCMD

FILES
FILABEL
MYLADEL
IIP
MYLUENT
NGPRINT
TACKU
LCCFIL
MACHINE
HAUXPN
CONTROL
MULAUJ
PRINTCON
PRIMULL
DEFENSE
IFIPMNT
FIXED
FIXEDASS
SMAT

EXTERNAL SYMBOLS

THEND.
Q301004C
Q0001CT.
GETVALU
ITLE
NUMGET
SEIHEAD
ROADWAY
REW.
TSM.
DEC.
STM.
SLO.
SLI.
QNSINGL.

CU0012 ALSCRP
CU0001 ALSC11
CU0006 ALSC12
CU0006 ALSC1AK
PU136 AN000C4
CU0002 BASFILE
PU2202 BEGIN.
CU0006 BENFAC
CU0001 CLOSE
CU0003 CLOSER
PU2103 CNVRT1.
CU0010 CORR
CU0013 CORR2
PU2234 COUNT.
PU0032 CRPM1.
XU0013 DEC.
CU0004 DELTEFF
CU0007 DELTVAL
PU0001 DICT.
PU2204 ENDING.
CU0002 ERRCLCS
CU0016 EVENTAPE
PU0000 EXIT.
CU0020 FACIRV
CU1361 FILLER
PU0032 FORMAT.
CU0004 FSMSTVTV
CU0050 FVAL
XU0004 GETVALU
PU0073 GG000CC.
PU0706 GG000C1.
PU0721 GG000C2.
PU0006 GG000C3.

CU0032

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P01044	GG0000C4.	01033	00602	00604	00632	00637	00655	00657	00741	00744	00747
P01117	GG0000C5.	01107	01242	01263	01267	01303	01306	01324	01373	01375	01377
P01144	GG0000C6.	01134	01426	01433	01466	01674	01712	01766	02116		
P01232	GG0000C7.	01224									
P01241	GG000010.	01233									
P01267	GG000011.	01246									
P01302	GG000012.	01274									
P01324	GG000013.	01312									
P01365	GG000014.	01353									
P01414	GG000015.	01406									
P01443	GG000016.	01415									
P01547	GG000017.	01535									
P01556	GG000020.	01550									
P01571	GG000021.	01557									
P01627	GG000022.	01617									
P01717	GG000023.	01706									
P02007	GG000024.	01775									
P02022	GG000025.	02010									
P02053	GG000026.	02033									
P02075	GG000027.	02055									
P02235	I	00416	00602	00604	00632	00637	00655	00657	00741	00744	00747
		01011	01242	01263	01267	01303	01306	01324	01373	01375	01377
		01404	01426	01433	01466	01674	01712	01766	02116		
		00412	00570								
P02236	IA	01571	01636	01637	01644	01645	01764	01765	01151	01334	01335
P02237	IAD	00756	01016	01021	01023	01040	01052	01056			
	IAM	01372	01376	01513	01630	01674	01677				
		00415	00735	01646	01657	01662	02023				
		01575	01747	01747	02054	02054					
P02240	IAMFIX										
C00013	IACD										
C00002	ICOMM										
C00431	ICOUNT										
C00001	IDC										
C00051	IDUMPR										
P02241	IF	01161	01256	01256							
C00114	IFIXREG	00411									
C00115	IFIXEAD										
C00012	IFIXTAPS	01573	01736	01736	02024	02024	02026	02026			
C00000	IFIXTEMP	02032									
P00010	IFORMAT	00032	01315								
C00000	IFRSIDR										
C00000	IFTGT	01634	01642	02100	02100						
C00000	IFTPHAT										
C00011	IFW										
P02242	IGCIC.	01026	01631	01700							
C00014	IMATCH	01444									
P02104	INOCOC3.	01031	01054	01061	01154	01163	01720	01742	01753	02171	
P02105	INOCOC5.	01101	02162	02200							
P02106	INOCOC7.	01255	02110	02122	02136						
P02107	INOCOC11.	01430	02110	02121	02152						
C00007	INCOMM										
C00002	INDATE										
C00203	INDEX1	00725	01016	01605	01654						
C00253	INDEX2	00725	01012	01605	01654						
C00323	INDEX3	00726	01606	01655							

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C00051	INDEXPR	00647	00651	00652	01124	01201
C00003	INFORM	00641	00650	00652	01124	01201
C00000	INIDENT	00641	00650	00652	01124	01201
P02202	INITIAL	00641	00650	00652	01124	01201
C00006	INLGTH	00641	00650	00652	01124	01201
C00000	INPUT	00641	00650	00652	01124	01201
C00001	INRUMAC	00641	00650	00652	01124	01201
C00004	INSECR	00641	00650	00652	01124	01201
P02243	INT	00641	00650	00652	01124	01201
C00005	INTIME	00641	00650	00652	01124	01201
C00003	INVALU	00641	00650	00652	01124	01201
P00022	ISPTFIX	00641	00650	00652	01124	01201
C00003	IPUNCH	00641	00650	00652	01124	01201
C00000	IREAU	00641	00650	00652	01124	01201
C00107	IS	00641	00650	00652	01124	01201
C00001	ISTORE	00641	00650	00652	01124	01201
P00025	ISURFIA	00641	00650	00652	01124	01201
P02244	IT2	00641	00650	00652	01124	01201
P02245	ITEST	00641	00650	00652	01124	01201
C00050	ITIME	00641	00650	00652	01124	01201
X00005	ITLE	00641	00650	00652	01124	01201
C00002	ITMPMSL	00641	00650	00652	01124	01201
C00000	ITP	00641	00650	00652	01124	01201
C00000	ITWCRF	00641	00650	00652	01124	01201
C00012	IWRIT	00641	00650	00652	01124	01201
P00433	.10	00641	00650	00652	01124	01201
P00673	.100	00641	00650	00652	01124	01201
P01015	.1000	00641	00650	00652	01124	01201
P00137	.100001	00641	00650	00652	01124	01201
P00740	.100002	00641	00650	00652	01124	01201
P01011	.100003	00641	00650	00652	01124	01201
P01022	.100004	00641	00650	00652	01124	01201
P01533	.100005	00641	00650	00652	01124	01201
P01534	.100006	00641	00650	00652	01124	01201
P00731	.110	00641	00650	00652	01124	01201
P00700	.120	00641	00650	00652	01124	01201
P00763	.130	00641	00650	00652	01124	01201
P00772	.135	00641	00650	00652	01124	01201
P00775	.140	00641	00650	00652	01124	01201
P01007	.150	00641	00650	00652	01124	01201
P01031	.151	00641	00650	00652	01124	01201
P01045	.152	00641	00650	00652	01124	01201
P01054	.153	00641	00650	00652	01124	01201
P00607	.20	00641	00650	00652	01124	01201
P01061	.200	00641	00650	00652	01124	01201
P01223	.2000	00641	00650	00652	01124	01201

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PU1607 .2010
 PU167J .210
 PU1324 .2100
 PU1673 .215
 PU1102 .220
 PU1341 .2200
 PU1340 .2210
 PU1352 .2220
 PU1376 .2230
 PU1106 .230
 PU1122 .240
 PU1131 .250
 PU1151 .280
 PU0645 .30
 PU1163 .300
 PU1547 .3000
 PU1616 .3010
 PU1830 .3020
 PU1634 .3030
 PU1636 .3040
 PU1644 .3050
 PU1850 .3055
 PU1854 .3056
 PU1682 .3060
 PU1705 .3070
 PU1720 .3080
 PU1733 .3090
 PU1172 .310
 PU1735 .3100
 PU1142 .3110
 PU1753 .3120
 PU1760 .3130
 PU1764 .3140
 PU1176 .320
 PU1204 .330
 PU1210 .340
 PU0662 .40
 PU1766 .4000
 PU1774 .4010
 PU2124 .5000
 PU2126 .5100
 PU2154 .5200
 PU2175 .5300
 PU2207 .ERASEM.
 PU0632 ..100C00
 PU0633 ..100C01
 PU0634 ..100C02
 PU0635 ..100C03
 PU0636 ..100C04
 PU0637 ..100C05
 PU0640 ..100C06
 PU0641 ..100C07
 PU0642 ..100C08
 PU0643 ..100C09

U1672
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 U1340
 U1345

U1104
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 U1101
 U1101
 01101

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 U1647

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 U1757

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 U1661
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U1015
 U1015
 01020
 U1077
 U1100
 01371

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P00044	..100C10	00465
P00045	..100C11	00471
P00046	..100C12	00475
P00047	..100C13	00501
P00050	..100C14	00505
P00051	..100C15	00511
P00052	..100C16	00515
P00053	..100C17	00521
P00054	..100C18	00526
P00055	..100C19	00530
P00056	..100C20	00534
P00057	..100C21	00540
P00060	..100C22	00542
P00061	..100C23	00546
P00062	..100C24	00552
P00063	..100C25	00554
P00064	..100C26	00556
P00065	..100C27	00560
P00066	..100C28	00562
P00067	..100C29	00564
P00070	..100C30	00566
P00071	..100C31	00573
P00072	..100C32	00575
P00073	..100C33	00605
P00074	..100C34	00627
P00075	..100C35	00660
P00117	..100C36	00761
P00120	..100C37	00773
P00140	..100C38	01010
P00141	..100C39	01022
P00160	..100C40	01125
P00200	..100C41	01210
P00264	..100C42	01332
P00265	..100C43	01337
P00266	..100C44	01341
P00267	..100C45	01343
P00270	..100C46	01346
P00271	..100C47	01350
P00305	..100C48	01367
P00373	..100C49	01726
P00201	..1001	01036
P00107	..101	00677
P00112	..102	00712
P00121	..141	01001
P00204	..2001	01227
P00215	..2002	01236
P00250	..2003	01251
P00255	..2011	01277
P00272	..2201	01356
P00306	..2231	01411
P00323	..2232	01420
P00142	..231	01112
P00161	..251	01137
P00343	..3001	01553

01540 02000
01562 02013
01711

P00355	..3J11	01622
P00374	..5201	02036
P00076	..99	00670
P02208	..NSTIFF..	01400
P01951	..Z000C1..	01046
P01905	..Z000C2..	01062
P01160	..Z000C3..	01155
P01167	..Z000C4..	01164
P01672	..Z000C5..	01087
P01724	..Z000C6..	011721
P01748	..Z000C7..	011743
P02246	J	02043
P02246	JK	01177
P02250	JKS	01422
G00121	JPASS	00643
G00171	JTGTP	00642
P02251	KJL	01253
P02252	KKK	00745
P02253	KKKK	01152
C00361	RTGTFREU	00642
P00003	LABEL	01332
P00016	LAW	01044
G00441	LPASS	00644
C00036	LSKAT	00632
C00311	L16T	00644
C00551	MAIREQ	00634
C00015	MINDANAG	01514
C00373	MCRE	00726
C00552	MPRINT	01071
C00094	MSLTIME	
C00003	MYCOMV	
C00503	MYFORM	00426
C00500	MYFORMT	01307
P02254	MYFORM	01025
C01214	MYGOTO	00430
G00000	MYIDEAT	01127
C00002	MYLENGTH	
C00374	MYNAME	00435
C00501	MYPRY	00462
C00001	MYSECR	00512
C00704	MYTYPE	00535
C01059	MYVAL	00561
C00013	NAME5	00661
P00015	NAMPRAT	00431
C01360	NADFLY	01475
C01048	NFLA95	00724
		01113
		00032
		00405

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0040
1127
0035
0060
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0541
0061
0030
0061
0032
0074
1475
0733
1713
0765
0000

01351	01351	01351	01362
00543	00543	00571	00571
06452	06452	06456	06456
06476	06502	06502	06502
06527	06527	06531	06531
00553	00555	00555	00555
06567	06567	06576	06576
01332	01367	01367	01367
01263	01264	01264	01264
01320	01335	01336	01336
01623	01623	01653	01653
01326	01333	01370	01370

00456	00462
00506	00506
00531	00535
00557	00557
00576	00606
01443	01443
01667	01672

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RDALCRU

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C00000	MINTPRD	01102	01102	01103	01117	01117	01120	01123	01123	01127	01144
C00014	NLFTR	01144	01205	01271	01271	01271					
C00030	NPRIAT	01130	01146	02175							
C00005	NPASS										
C00553	NREQ	01453									
P02255	NSAVPR	01047	01156	01165	01722	01744	02075	01656	01656	01770	01770
C00000	NTATTIB	00723	00727	01217	01217	01603	01652				
C00000	NTX										
X00006	NUMGET	01510									
X00012	NVARS	01462									
P02110	P0000C+U										
P02124	P00002+U										
P02160	P00003+U										
C00006	PKTX										
C00017	PLANTAPE										
C00006	PRM										
C00001	PRCCHULT										
C00003	PROGRESS										
C00011	PRX	01522	01524	01524							
C00003	PX	01577	01640	01761							
X00002	Q0010C4U	00000	00402								
X00003	Q0001C1	012102									
X00017	QNSINGL	01470									
C00004	QUALITY	01512									
C00013	RADPX	01450									
C00002	RATICINT	00401									
P00001	RDALCRD	00430									
X00010	RDARHAY	01750									
X00011	NEW										
C00001	MINTPRD	01446	01516	01520							
P02256	MINTPRD	01516	01641	01762							
C00007	RX										
C00110	SAVEFIA	01737									
C00005	SDELTEFF	01502	02002								
X00007	SETREAD	00701	01564	02015							
C00005	SETTLE	00714	01360	02015							
X00015	SLC	01402	01431	01431							
C00000	SMAT										
C00037	SMATHIRV										
C00042	SMOCHIRV	01452									
C00003	SNSTVTY	01464	00710	01110	01135	01225	01234	01275	01313	01354	
C00000	STALADJ	01407	01416	01560	01620	01707	02011				
X00014	STM										
C00011	STIME										
C00014	STRKFL										
C00107	SX	01474	01474								
C00021	TARFAC	00071	00704	01004	01342	01545	01567	01625	01715	01765	01300
C00000	TGIFILE	01322	01363	01441	01545	01554	01567	01625	01715	01765	01300
X00001	TREND	02051	02073								02020

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11/29/71	ED	0	PAGE NO.	19
CUGJ5U TIME				
CUGJ14 TINTFAC				
CUGJ10 TMAPALCC				
PUGJ34 TS000C1.	U1526			
PUGJ40 TS000C3.	U1526			
PUGJ27 TS000C5.	U1526			
PUGJ05 TS000C6.	U1526			
PUGJ71 TS000C7.	U1526			
PUGJ30 TS000C1.	U1526			
PUGJ70 TS000C15.	U1526			
PUGJ12 TSH.	U1526			
PUGJ00 TSH.	U1526			
PUGJ15 UP000C0.	U1526			
PUGJ31 UP000C2.	U1526			
PUGJ45 UP000C3.	U1526			
PUGJ05 UP000C5.	U1526			
PUGJ15 UP000C7.	U1526			
PUGJ74 UP000C1.	U1526			
CUGJ07 VALEMR	U1526			
CUGJ05 VALWPN	U1526			
CUGJ02 WADCP	U1526			
CUGJ00 WPNTR	U1526			
PUGJ24 WS000C1.	U1526			
PUGJ05 WS000C2.	U1526			
PUGJ40 WS000C3.	U1526			
PUGJ60 WS000C4.	U1526			
PUGJ74 WS000C5.	U1526			
PUGJ00 WS000C6.	U1526			
PUGJ45 WS000C7.	U1526			
PUGJ55 WS000C10.	U1526			
PUGJ00 WS000C11.	U1526			
PUGJ70 WS000C12.	U1526			
PUGJ30 WS000C13.	U1526			
PUGJ42 WS000C14.	U1526			
PUGJ66 WS000C15.	U1526			
PUGJ44 WS000C16.	U1526			
PUGJ60 WS000C17.	U1526			
U0564 SYMBOLS				

PTMS.5

11/29/71

PAGE NO.

2

11.0 WHITE(UNIT, 1101)

11.1 FORMAT(//# UNRECOGNIZED ATTRIBUTE NAME - CARD IGNORED*)

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38000
39000
40000
41000

11/29/71

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PAGE NO. 3

544TS HEADMUL

IDENT READMUL

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES
READMUL
MACHINE
MASTER
222

EXTERNAL SYMBOLS
THERM.
QUADICT.
TSM.
SIM.
QNSINGL.

UITS
UUA2
UUA4
UUA27
UUA64

CU4133	ALERMEST	CU107	CU055	CU070	CU071	CU072	CU075	CU076	CU077	CU078	CU079	CU080	CU081	CU082	CU083	CU084	CU085	CU086	CU087	CU088	CU089	CU090	CU091	CU092	CU093	CU094	CU095	CU096	CU097	CU098	CU099	CU100	CU101	CU102	CU103	CU104	CU105	CU106	CU107	CU108	CU109	CU110	CU111	CU112	CU113	CU114	CU115	CU116	CU117	CU118	CU119	CU120	CU121	CU122	CU123	CU124	CU125	CU126	CU127	CU128	CU129	CU130	CU131	CU132	CU133	CU134	CU135	CU136	CU137	CU138	CU139	CU140	CU141	CU142	CU143	CU144	CU145	CU146	CU147	CU148	CU149	CU150	CU151	CU152	CU153	CU154	CU155	CU156	CU157	CU158	CU159	CU160	CU161	CU162	CU163	CU164	CU165	CU166	CU167	CU168	CU169	CU170	CU171	CU172	CU173	CU174	CU175	CU176	CU177	CU178	CU179	CU180	CU181	CU182	CU183	CU184	CU185	CU186	CU187	CU188	CU189	CU190	CU191	CU192	CU193	CU194	CU195	CU196	CU197	CU198	CU199	CU200	CU201	CU202	CU203	CU204	CU205	CU206	CU207	CU208	CU209	CU210	CU211	CU212	CU213	CU214	CU215	CU216	CU217	CU218	CU219	CU220	CU221	CU222	CU223	CU224	CU225	CU226	CU227	CU228	CU229	CU230	CU231	CU232	CU233	CU234	CU235	CU236	CU237	CU238	CU239	CU240	CU241	CU242	CU243	CU244	CU245	CU246	CU247	CU248	CU249	CU250	CU251	CU252	CU253	CU254	CU255	CU256	CU257	CU258	CU259	CU260	CU261	CU262	CU263	CU264	CU265	CU266	CU267	CU268	CU269	CU270	CU271	CU272	CU273	CU274	CU275	CU276	CU277	CU278	CU279	CU280	CU281	CU282	CU283	CU284	CU285	CU286	CU287	CU288	CU289	CU290	CU291	CU292	CU293	CU294	CU295	CU296	CU297	CU298	CU299	CU300	CU301	CU302	CU303	CU304	CU305	CU306	CU307	CU308	CU309	CU310	CU311	CU312	CU313	CU314	CU315	CU316	CU317	CU318	CU319	CU320	CU321	CU322	CU323	CU324	CU325	CU326	CU327	CU328	CU329	CU330	CU331	CU332	CU333	CU334	CU335	CU336	CU337	CU338	CU339	CU340	CU341	CU342	CU343	CU344	CU345	CU346	CU347	CU348	CU349	CU350	CU351	CU352	CU353	CU354	CU355	CU356	CU357	CU358	CU359	CU360	CU361	CU362	CU363	CU364	CU365	CU366	CU367	CU368	CU369	CU370	CU371	CU372	CU373	CU374	CU375	CU376	CU377	CU378	CU379	CU380	CU381	CU382	CU383	CU384	CU385	CU386	CU387	CU388	CU389	CU390	CU391	CU392	CU393	CU394	CU395	CU396	CU397	CU398	CU399	CU400	CU401	CU402	CU403	CU404	CU405	CU406	CU407	CU408	CU409	CU410	CU411	CU412	CU413	CU414	CU415	CU416	CU417	CU418	CU419	CU420	CU421	CU422	CU423	CU424	CU425	CU426	CU427	CU428	CU429	CU430	CU431	CU432	CU433	CU434	CU435	CU436	CU437	CU438	CU439	CU440	CU441	CU442	CU443	CU444	CU445	CU446	CU447	CU448	CU449	CU450	CU451	CU452	CU453	CU454	CU455	CU456	CU457	CU458	CU459	CU460	CU461	CU462	CU463	CU464	CU465	CU466	CU467	CU468	CU469	CU470	CU471	CU472	CU473	CU474	CU475	CU476	CU477	CU478	CU479	CU480	CU481	CU482	CU483	CU484	CU485	CU486	CU487	CU488	CU489	CU490	CU491	CU492	CU493	CU494	CU495	CU496	CU497	CU498	CU499	CU500	CU501	CU502	CU503	CU504	CU505	CU506	CU507	CU508	CU509	CU510	CU511	CU512	CU513	CU514	CU515	CU516	CU517	CU518	CU519	CU520	CU521	CU522	CU523	CU524	CU525	CU526	CU527	CU528	CU529	CU530	CU531	CU532	CU533	CU534	CU535	CU536	CU537	CU538	CU539	CU540	CU541	CU542	CU543	CU544	CU545	CU546	CU547	CU548	CU549	CU550	CU551	CU552	CU553	CU554	CU555	CU556	CU557	CU558	CU559	CU560	CU561	CU562	CU563	CU564	CU565	CU566	CU567	CU568	CU569	CU570	CU571	CU572	CU573	CU574	CU575	CU576	CU577	CU578	CU579	CU580	CU581	CU582	CU583	CU584	CU585	CU586	CU587	CU588	CU589	CU590	CU591	CU592	CU593	CU594	CU595	CU596	CU597	CU598	CU599	CU600	CU601	CU602	CU603	CU604	CU605	CU606	CU607	CU608	CU609	CU610	CU611	CU612	CU613	CU614	CU615	CU616	CU617	CU618	CU619	CU620	CU621	CU622	CU623	CU624	CU625	CU626	CU627	CU628	CU629	CU630	CU631	CU632	CU633	CU634	CU635	CU636	CU637	CU638	CU639	CU640	CU641	CU642	CU643	CU644	CU645	CU646	CU647	CU648	CU649	CU650	CU651	CU652	CU653	CU654	CU655	CU656	CU657	CU658	CU659	CU660	CU661	CU662	CU663	CU664	CU665	CU666	CU667	CU668	CU669	CU670	CU671	CU672	CU673	CU674	CU675	CU676	CU677	CU678	CU679	CU680	CU681	CU682	CU683	CU684	CU685	CU686	CU687	CU688	CU689	CU690	CU691	CU692	CU693	CU694	CU695	CU696	CU697	CU698	CU699	CU700	CU701	CU702	CU703	CU704	CU705	CU706	CU707	CU708	CU709	CU710	CU711	CU712	CU713	CU714	CU715	CU716	CU717	CU718	CU719	CU720	CU721	CU722	CU723	CU724	CU725	CU726	CU727	CU728	CU729	CU730	CU731	CU732	CU733	CU734	CU735	CU736	CU737	CU738	CU739	CU740	CU741	CU742	CU743	CU744	CU745	CU746	CU747	CU748	CU749	CU750	CU751	CU752	CU753	CU754	CU755	CU756	CU757	CU758	CU759	CU760	CU761	CU762	CU763	CU764	CU765	CU766	CU767	CU768	CU769	CU770	CU771	CU772	CU773	CU774	CU775	CU776	CU777	CU778	CU779	CU780	CU781	CU782	CU783	CU784	CU785	CU786	CU787	CU788	CU789	CU790	CU791	CU792	CU793	CU794	CU795	CU796	CU797	CU798	CU799	CU800	CU801	CU802	CU803	CU804	CU805	CU806	CU807	CU808	CU809	CU810	CU811	CU812	CU813	CU814	CU815	CU816	CU817	CU818	CU819	CU820	CU821	CU822	CU823	CU824	CU825	CU826	CU827	CU828	CU829	CU830	CU831	CU832	CU833	CU834	CU835	CU836	CU837	CU838	CU839	CU840	CU841	CU842	CU843	CU844	CU845	CU846	CU847	CU848	CU849	CU850	CU851	CU852	CU853	CU854	CU855	CU856	CU857	CU858	CU859	CU860	CU861	CU862	CU863	CU864	CU865	CU866	CU867	CU868	CU869	CU870	CU871	CU872	CU873	CU874	CU875	CU876	CU877	CU878	CU879	CU880	CU881	CU882	CU883	CU884	CU885	CU886	CU887	CU888	CU889	CU890	CU891	CU892	CU893	CU894	CU895	CU896	CU897	CU898	CU899	CU90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CU0020 ACNTY
 CU0021 ACMPLEX
 CU0004 ACORR
 CU0025 ACRTYPE
 CU0005 ADPEN
 CU0013 NG
 CU0014 NGROUP
 CU0023 NOTHER
 CU0015 NPAYLOAD
 CU0006 NRECOVER
 CU0007 NREF
 CU0011 NREG
 CU0003 NRTPT
 CU0020 NTANKBAS
 CU0024 NTGTS
 CU0014 NTOTBASE
 CU0012 NTYPE
 PU0173 NUNBA
 CU0017 NNMOTYPE
 XU0002 GRQDICT.
 XU0005 GNSINGL.
 PU0042 HEADMLL
 CU0071 RUNSIP
 XU0004 STM.
 XU0001 TEND.
 XU0003 TSM.
 PU0174 V
 CU0000 WIFAC
 CU0003 WIFATE
 CU0006 WTSUM
 0012* SYMCLS

00116 00117 00125 00126 00134 00135 00144 00145
 00126 00135 00145
 00146 00056 00071 00110 00120 00127 00137 00147
 00000 00043
 00042
 00064 00157
 00060 00073 00162
 00050 00057 00072 00151

11/29/71

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SUBROUTINE RECON
  CSUBH RECON IJUN71 *****
  C
  C THIS SUBROUTINE USES THE DATA INPUT ON THE WEAPON-TARGET INTER-
  C ACTION DATA FILES TO RECONSTRUCT THE FULL SET OF WEAPON-TARGET
  C INFORMATION
  C
  C ENTRY SETUP IS USED WHEN NO UNPACKING OF THE FILE DATA IS REQUIRED
  C
  CUSE WADPN IJUN71 *****
  C
  C USED BY MULCON, PREMIUMS, WAD, WADOUT, PRINTNW, MESVAL, DEFALOC,
  C STALL, FMUP, SORTMNH, TABLEMUP, MDALCRU
  C
  CCOMMON /WAD=PN/ JTGT, INACTIVE(200), TGA(200),
  C 1 TVALTGA(200), VTGA(200,2), MUP(200,2), MISC(6,200,2),
  C 2 SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAW,
  C 3 MISDEF, MOH(200), PEX(200), AMUP(200,2), JTGTIX, LNEXT,
  C 4 MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, IAX(200), TGA(200),
  C 5 MOHAX(200), PEX(200), STAX(200,2), STREX(200,2), LSTMAX
  C
  C TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
  C TYPE REAL MINKILX, MAXKILX, MAXCOSA
  C
  C DIMENSION STARRAY(1607), ISTARRAY(1607)
  C EQUIVALENCE (STARRAY, ISTARRAY, JTGTIX)
  C
  C DATA (LSTMAX = 1607)
  C
  CEND
  CUSE WADPN IJUN71 *****
  C
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRINTNW, RESVAL,
  C DEFALOC, AND PRINTCON
  C
  CCOMMON/DYNAMIC/TOTNAME,INDEXNO,UESIG,TASK,CNTRYLOC,FLAG,TGTMULT,
  C 1 TGLAT,TGLONG,IGTRAD,VIC,MH(2),VC(2),NK,PVAL(3),TAU(3),IMCLASS,
  C 2 ICLASSN,INTYPE,TARDEF,INDYPEN,DISTDF,UISTDG,NHLN,CTMULT,VT,
  C 3 TGTWT(3),PAYOFF,COST,PHCFIT,DPHCFIT,RTTEST,INECT,NUMFIX,
  C 4 ITGT,NUMVIG(30),KORR(30),HVAL(30),PEN(30),TGAHR(30),LDN
  C
  C TYPE INTEGER TOTNAME,UESIG,TASK,CNTRYLOC,FLAG,TARDEF
  C EQUIVALENCE (DGNARRAY,TOTNAME)
  C
  C DATA (LDN = 45)
  C
  C DIMENSION VID(30)
  C EQUIVALENCE (VID, RVAL)
  C
  C DYNAMIC *****
  C WPNATYPE IJUN71 *****
  C
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRINTNW, RESVAL, DEFALOC
  C
  CCOMMON/WPNATYPE/RANGE(80),CEP(80),SPEED(80),ALEKTULY(80),
  C 1,NELTULY(80),RANGEDEC(80),ICLASS(80),MANGERE(80),REL(80)

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1625

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C
CUSE C      SMAT      1JUN71 *****
C      COMMON/SMAT(6*5)*LDMAT,SMATMIRV(3)*SMQMIRV(3)
C      DATA(LSMAT = 3J)
CUSE C      SMAT *****
C      PAYOFF 1JUN71 *****
C      USED BY WAD AND PENTON
C      COMMON/PAYOFF/
C      ITRENEFIT
C      1*SMAT *****
C      PAYOFF *****
C      DATA (LBOMBER = 2)
C      LBOMBER BOMBER CLASS CODE
C      SMAT FAILURE MODE ATTRIBUTE MATHTA
C      FIRST DIMENSION IS ATTRIBUTE NUMBER
C      SECOND DIMENSION IS FAILURE MODE NUMBER
C      MAT NUMBER OF ATTRIBUTES
C      SMATMIRV TEMPORARY STORAGE FOR GROUP ATTRIBUTE ENTRIES FOR
C      MIV SYSTEMS
C      SMQMIRV TEMPORARY STORAGE FOR GROUP ATTRIBUTE ENTRIES FOR
C      NON MIV SYSTEMS
C      TYPE INTEGER G: A
C      ISYS = 1
C      MAXG = MGNMUP
C      CLEAR DATA ARRAYS
C      DC 100 I = 1, MAXG
C      INACTIVE(I) = 100
C      100 CONTINUE
C      NTCCLR = MAXG * 24 + 3
C      DC 200 I = 1, NTCCLR
C      TGA(I) = 0.0
C      200 TGA(I) = 0.0
C      LOAD DIRECT DATA
C      JIGT = JIGTA
C      MINKILL = MINNIX
C      MAXKILL = MAXKILX
C      MAXCOST = MAXCOSA
C      MISDEF = MISUEA
C      NN1 = NACTIV + 1
C      NN2 = NN1 + NACTIV
C      NN3 = NN2 + NACTIV
C      DC 300 I = 1, NACTIV
C      K = IGA(I)
C      INACTIVE(K) = 0
C      TGA(K) = STARRAT(NN1 + I)
C      MGR(K) = ISTARRAT(NN2 + I)
C      PEX(K) = STARRAT(NN3 + I)

```

```

300 CONTINUE
C
C      DECOMPRESS SIK ARRAYS
C
C      FIRST LOAD DATA I-TC VTCA AND AMUP ARRAYS
      IFROM = NACTV * 4 + 7
      NA = N * NACTV
      UC 400 KJ = 1.0
      UC 400 I = 1.0 NACTV
      K = IGR(I)
      IFROM = IFROM + 1
      VTCA(K*J) = STARRAY(IFROM)
      AMUP(K*J) = STARRAY(IFROM + NA)
400 CONTINUE
C      LOAD SIK ARRAYS AND CLEAR OTHER ARRAYS
      NA = 2 * MAXG
      UC 410 I = 1.0 NA
      SIK1(I) = VTCA(I)
      SIK2(I) = AMUP(I)
      VTCA(I) = 0.0
      AMUP(I) = 0.0
410 CONTINUE
C
C      ENTRY SETUP
C
C      RECONSTRUCT INFORMATION
      ILAW = C
      IF(LAW(1).EQ.8MSUMBER) .AND. (IGTRAD.GT.0.0) ILAW = 100
      UC 923 I = 1.0 NACTV
      G = IGR(I)
      K = ITYPE(G)
      KH = INEG(G)
      IP = IPAY(G)
C      SET UP CORRECT SWAT ARRAY
      IF (ISYS) 943, 949, 943
943 ISYS = C
      UC 942 II = 1.0 3
942 SWAT(2,II) = SNOPIRV(II)
949 CONTINUE
      IF(ICLASS(K).NE.100000) .AND. (IMINV(IP).GT.0) 960, 1000
960 ISYS = IMRV(IP)
      UC 971 IJ = 1.0 3
971 SWAT(2,IJ) = SNOPIRV(IJ)
1000 IF (TGA(G) - .0001) 914, 914, 916
914 FVALTC=1.0 $ UC 917
916 FVALTC=0.0
      UC 915 KTEL=K
      TEMP=TGA(G)/TAU(KT)
915 FVALICA=FVALICA+FVAL(AT)/(1.0+TEMP**4)
917 FVALTC(G)=FVALTC*VTC
      SP(1)=-LOGF(SBLIG)
      SP(2)=-LOGF(CCKR)
      SP(3)=-LOGF(HEL(K))
      SP(4)=-LOGF(PEATG)
      RELT=CC(KK)*SBLIG)*REL(K)*PEATG)

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122000

PT05.5

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RELTA = RELT / (1. - WKIX)
RELTL = SM(1) * SM(2) * SM(3) * SM(4)
UC 924 JALW
VICA(G,J) = VC(J) * EVALTJA
SIK = STAX(G,J)
SM(5) = -LOGF(SIK)
SSK = STKRELTL
SSKL = SM(5) * RELTL
SSS1 = -SSK
APUP(G,J) = 1.0 - RELTA * STK2X(G,J)
IF (PKNAV(G)) 1926, 1926, 1925
1925 APUP(G,J) = 1.0 - (RELTA * SIK)
1926 MUP(G,J) = TABLEMUP(5,S)
SSIU(G,J) = MUP(G,J) / SSKL
UC 924 ARI0NA1
QUANT(A) = 0
UC 925 L3105
925 QUANT(A) = QUANT(A) * SM(L) * SMAT(A,L)
926 RISK(A,G,J) = QUANT(A)
C
923 CONTINUE
CALL TIMEPE(3)
RETURN
END

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IDENT

RECON

PROGRAM LENGTH

ENTRY POINTS

BLOCK NAMES

RECON
SETUPWADAPN
DYNAMIC
WPNTYPE
WPRGRP
WPNNEV
PAYLOAU
CONTROL
DEFENSE
PRNAVAL
SMAT
PATOFFCUT06
C0022
C017714726
C0304
C1360
C4231
C0024
J0020
C0022
C0015
C0310
C0445
C0007

EXTERNAL SYMBOLS

Q0001CT
TABLEMUP
TIMEHE
LOUF

5.15

RECON

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ED

0

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P00467	A	00427	00433	00437	00445	00450	00456			
P00300	ALERTICLY									
P00531	BEGIN.	00433								
P00000	CC	00332	00350	00351						
P00000	CCREL									
P00120	CEP									
P00001	CLOSE									
P00004	ENTRYLOC									
P00010	CRQ									
P00013	CORR2									
P00045	COST									
P00052	CCUNT.	00034	00035	00046	00047	00072	00073	00136	00166	00167 00304
P00037	CTMULT	00024								
P00007	DELTVL									
P00002	DESIG									
P00001	DICT.	00024								
P00034	DISTUG									
P00035	DISTUG									
P00000	DNARWAY									
P00047	DRPCFIT									
P00034	ENDING.	00025	00026	00046	00031	00032	00032	00033		
P00000	EXIT.	00036								
P00320	EXPASM									
P00020	FACMIRV									
P00000	FLAG									
P00021	FORMAT.									
P00021	FVAL	00005	00015	00016	00017	00021	00021	00021		
P00053	FVALICA	00014	00014	00014	00014	00014	00014	00014		
P00070	G	00021	00023	00027	00030	00032	00032	00032		
P00014	H	00032	00034	00044	00046	00047	00047	00047		
P00054	I	00036	00064	00067	00067	00067	00067	00067		
P00150	IALENT									
P00010	IASM									
P00020	IBCMEM	00250	00247							
P00040	ICLASS									
P00030	ICLASSM									
P00010	IF000C1.									
P00052	IF000C2.									
P00055	IF000C	00123	00143	00144	00144	00150				
P00055	IG									
P00055	IGX									
P00027	IMCLASS	00074	00074	00140	00140	00220				
P00031	IMEST									
P00031	IMTYPE									
P00056	II	00237	00241	00521						
P00057	IJ	00261	00263	00535						
P00154	ILAW	00203	00204	00213	00214					
P00014	IMATCH									
P00050	IMIRV	00253	00253	00257	00257					
P00071	IN000C3.	00146	00177	00511	00627					
P00072	IN000C6.	00241	00513	00525						
P00073	IN00011.	00263	00527	00541						

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DATA RECORD

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PU0474 INOC15.
 PU0475 INOC21.
 PU0476 INOC22.
 CU0401 INACTIVE
 CU0401 INEXAC
 CU0433 INDPEN
 PU0431 INITIAL.
 CU1750 IOTER
 PU0660 IP
 CU2570 IPAY
 CU1440 IPENCODE
 CU1320 IRECMOE
 CU2570 IREFUEL
 CU1130 IREG
 CU1616 ISTARAY
 PU0661 ISYS
 CU0453 ITGT
 CU1440 ITYPE
 CU0412 IVERIFY
 CU0450 IMHD1
 CU0470 IMHD2
 PU0440 .100
 PU0270 .1000
 PU0213 .1000C1
 PU0215 .1000C2
 PU0413 .1925
 PU0417 .1926
 PU0450 .200
 PU0117 .300
 PU0155 .403
 PU0175 .413
 PU0275 .914
 PU0311 .915
 PU0277 .916
 PU0321 .917
 PU0460 .923
 PU0445 .924
 PU0440 .925
 PU0243 .942
 PU0235 .943
 PU0246 .949
 PU0256 .963
 PU0265 .971
 PU0640 .ERASER.
 PU0421 .100000
 PU0637 .NSTIFF.
 PU0662 J
 CU0400 JTGT
 CU1616 JTGTX
 PU0663 K
 PU0664 KJ
 CU0413 KRR
 PU0665 KR
 PU0666 KT

U0372 U0415 U0422 U0543 U0556 U0616
 U0436 U0561 U0573 U0575 U0607
 U0446 U0544 U0557 U0561 U0620
 U0436 U0437 U0100
 U0425 U0202
 U0232 U0252 U0256
 U0231 U0231
 U0227 U0227 U0236 U0260
 U0110 U0111 U0111
 U0427 U0233
 U0223 U0224
 U0251 U0254 U0255
 U0207 U0212 U0212
 U0412 U0412
 U0273 U0273
 U0274 U0276
 U0234 U0233
 U0312 U0313 U0314 U0316 U0357 U0360
 U0206 U0103 U0107 U0110 U0114 U0152
 U0364 U0367 U0454 U0552
 U0054
 U0053 U0053 U0141 U0225 U0246 U0336 U0624
 U0075 U0077 U0156 U0505
 U0127
 U0230 U0331 U0304

DATE	HECDA	11/29/71	ED	0	PAGE NO.	9
PU0007	L	00434	00436	00603		
CU0016	LAW	00205	00205			
CU0303	LDN	CU020				
CU1617	LNEXT					
CU0004	LOGF	00326	00333	00345	00375	
CU0030	LSMAI	00020				
CU1725	LSTMAX	00124	00124	00160	00456	00456
CU0013	K	00057				
CU1053	MAXCOST	00057				
CU1622	MAXCOST	00056				
PU0070	MAXG	00031	00032	00041	00163	
CU1052	MAXKILL	00056				
CU1621	MAXKILL	00055				
CU0430	MG					
CU0430	MGRUP	00027	00030			
CU0015	MINDAWAG					
CU1051	MINKILL	00055				
CU1620	MINKILL	00054				
CU1055	MISDEF	00060				
CU1623	MISDEF	00057				
CU1056	MISDEX	CU111				
CU1245	MORR					
CU0017	MP					
PU0017	MPAYLCAD					
CU1751	PUP	00423	00423	00063	00064	00125
CU1624	NACTV	00060	00062	00061	00121	00125
CU0500	NADEC	CU133				
CU0500	NADECCYS					
CU0500	NALRTDLY					
CU0240	NAM					
CU0006	NAT	00452	00452			
CU0030	NBLN					
CU0360	NCH					
CU0430	NDECCYS					
CU0020	NK	CU301	00302			
PU0671	NN	CU126	00151	00163	00165	
PU0672	NN1	CU082	00101			
PU0673	NN2	CU084	00106			
PU0674	NN3	CU066	00112			
CU0600	NBCHMB1					
CU0120	NBCHMB2					
CU0005	NPASS					
CU0430	NTEC					
PU0675	NTDCLP	CU043	00444			
CU0000	NTX					
CU0054	NUM					
CU0052	NUMFIX					
CU0000	NWHD					
CU0000	NWPN					
CU0000	CPRFIT					
PU0477	PU0001.0	00502				
PU0513	PU0002.0	00516				
PU0527	PU0003.0	00532				

RECON

P00543	P00005.0	00547				
P00561	P00006.0	00564				
P00575	P00007.0	00500				
C00044	PAYOFF					
C00027	PEN	00116	00343	00344	00353	00354
C10066	PEX					
C12755	PEXX					
C00000	PKNAV	00411				
C00006	PKTX	00356				
C00006	PRM					
C00046	PROFIT					
C00003	PROGRESS					
C00011	PRX					
C00003	PX					
X00001	QBODICT.	00000	00023	00200		
C00004	QUALITY					
P00011	QUA.T	00433	00442	00443	00446	
C00013	RADPX					
C00000	RANGE					
C00020	RANGEDEC					
C00022	RANGERE					
P00022	RECON	00022				
C00010	REFTIME					
C00000	REL	00337	00337	00352	00353	
P00076	RELT	00355	00360	00400		
P00077	RELT	00363	00402			
P00100	RELTA	00361	00404	00413		
C00071	RISK	00447	00447			
C00151	RVAL					
C00007	RX					
C00020	SBL	00325	00325	00351	00352	
P00177	SETUP	00177				
P00003	SM	00331	00330	00343	00350	
C00000	SMAT	00244	00260	00441	00441	
C00037	SMATIRV	00265	00265			
C00042	SMNGIRV	00243	00243			
C00001	SPAYOFF					
C00040	SPEED					
C00003	SPRDFIT					
C07331	SSIG	00425	00425			
P00101	SSK	00401	00403			
P00102	SSKL	00402	00424			
P00103	SSS	00404	00421			
C00000	STALADJ					
C11016	STARRAY	00104	00104	00115	00115	00153
C00011	STIME					
P00104	STK	00374	00400	00414		
C14105	STK2A	00172	00405	00405		
C13265	STKA	00171	00373			
C00002	SUMCOST					
C00004	SUMPHEN					
X00002	TABLEMUP	00417				
C00032	TARDEF					
C00021	TARFAC					

5.4TS	MECON		11/29/71	EO	0	PAGE NO.	12
	P00432	WS00014.					
	P00440	WS00015.					
	C00360	XDEG					
	C10776	AMUP					
	C03100	YIELD					
		WS0453					
		WS0444					
		WS154					
		WS171					
		WS174					
		WS407					
		WS407					
		WS416					
		WS416					
		WS42C					
		SYMBOLS					

```

SUBROUTINE MESVAL
  CSUBR      RESVAL  IJUN71 *****
  CUSE      WPREG   IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/WPREG/CCREL(20)
  DIMENSION CCREL(20)
  EQUIVALENCE (CCREL(1),CC(1))
  WPREG      IJUN71 *****
  WPREG      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C         STALL
  C
  COMMON/WPGRP/WPNS(200),WLAT(200),WLONG(200),
  IIRG(200),ITYPE(200),IALERT(200),SBL(200),IREFUEL(200),YIELD(200)
  2 * REFTIME(200),EXPASK(200),WGRUP
  EQUIVALENCE (IREFUEL,IPAY)
  DIMENSION IPAY(200)
  EQUIVALENCE (ICTHET,IALERT)
  DIMENSION ICTHET(200)
  EQUIVALENCE (WU,WGROUP)
  EQUIVALENCE (WU,WGROUP)
  WPREG      IJUN71 *****
  WPREG      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/LAMBDA/
  COMMON/LAMBDA/
  LAMBDA      IJUN71 *****
  LAMBDA      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALCC
  C
  1 DIMENSION LAM(200),SURPWP(200),PREMIUM(200),UPREMIUM(200)
  TYPE REAL LAM,LAMEF
  EQUIVALENCE ( LAM(1), LAMEF(1))
  LAMBDA      IJUN71 *****
  LAMBDA      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/WPNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTDLY(80)
  1,ALERTDLY(80),MANGEDC(80),ICLASS(80),MANGREF(80),REL(80)
  2,IRECKQDE(80),IPENMQUE(80)
  TYPE REAL NALRTDLY
  WPNTYPE      IJUN71 *****
  WPNTYPE      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM,
  C         RESVAL, A-D DEFALCC
  C
  COMMON/MASTER/INDATE,IDENTNO,ISIDE,NRTPT,NCGRP,NDPEN,NRECOVER
  1,NREF,NBNDRT,NREG,NITYPE,NGROUP,NTGIBASE,NPAYLOAD,NASHITYPE,NWHDTYPE
  2,NTANKHAS,NCOMPLEX,NCLASS,NALERT,NTGTS,NCORTYPE,NCNTRY
  EQUIVALENCE (NGROUP,NG) (NALERT,NOTHER)
  MASTER      IJUN71 *****
  MASTER      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM, RESVAL,
  C         DEFALCC, AND PRINTCON
  C
  COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
  1,IGTLAT,IGTLONG,IGTRAD,VIC,NH(2),VC(2),NK,EVAL(3),TAU(3),INCLASS,
  2,ICLASSA,INTYPE,TARGET,INDYPEN,DISTOF,DISTOG,NBLN,CTMULT,VT,

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3      TGTWT(3),PAYOFF,LCST,PROFIT,OPHPCFIT,WRITES,INECT,NUMFIX,
4      ITGT,MUM,JG(30),KCRK(30),RVAL(30),PEN(30),TCARR(30),LDN
C
C      TYPE INTEGER TGTNAME,JES16,TASK,CNTNLYCC,FLAG,TARDEF
C      EQUIVALENCE (DNARRAY,IGTNAME)
C      DATA(LDA = 45)
C
C      DIMENSION VTG(30)
C      EQUIVALENCE(VTG, RVAL)
C
C      DYNAMIC *****
C      PAYLOAD LJUN71 *****
C      USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, UEFALOC
C
C      COMMON/PAYLOAD/NBCHMB1(40),IMHD1(40),NGBCHMB2(40),IMHD2(40)
C      1,NASHM(40),IASH(40),NCH(40),NDECCYS(40),NADECCYS(40),IMIRV(40)
C      EQUIVALENCE (MP,MPAYLOAD),(NCH(1),XDEG (1)),
C      PINDECCYS(1),NTUEC(1)),(NADECCYS(1),
C      SNADEC(1)),(NBCHMB1(1),NMBU(1))
C      DIMENSION XDEG(40),NTUEC(40),NADEC(40),NMBU(40)
C      PAYLOAD *****
C      LOCDEF LJUN71 *****
C      USED BY PRNTNOM, RESVAL, AND DEFALOC
C
C      COMMON/LOCDEF/VTGX,NBEP(200),RATM
C      LOCDEF *****
C      DEFENSE LJUN71 *****
C      COMMON/DEFENSE/NTX(3),PAX(3),PRTXRX(2),PRX(2),RADPX,TINTFAC
C      DEFENSE *****
C      WADNPN LJUN71 *****
C
C      USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALOC,
C      STALL, FMUP, SORTM5H, TABLEMUP, RDALCRU
C
C      COMMON /WADNPN/ JTGT, INACTIVE(200), TCA(200),
C      1 TVALTCAT(200), VTCA(200,2), MUP(200,2), RISK(6,200,2),
C      2 SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAW,
C      3 MISDEF, MCHM(200), PER(200), XMUP(200,2), JIGTX, LNEXT,
C      4 MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, IGA(200), TGA(200),
C      5 MCRRX(200), PERX(200), STKX(200,2), STK2X(200,2), LSTMAX
C
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSA
C
C      DIMENSION STARMAY(160), ISTAHAY(160)
C      EQUIVALENCE (STARHAY, ISTARAY, JIGTX)
C      DATA (LSTMAX = 1607)
C
C      WADNPN *****
C      TYPE REAL NTXJ
C      TYPE REAL NCHJ
C      DIMENSION JOAL(50)
C      ORDER WEAPONS BY TIME OF ARRIVAL

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```

NCBJ = C
NN=0
DC 10 J=1,NG
K = ITYPE(I)
KK = IPAY(I)
IF ( NCHEP(I) .GT. 0) 9, 10
9 NN=NN+1
IF ( NN .GT. 30) 15,7
7 JGX(NN) = I
8 NCBJ = NCBJ+NCHEP(I)*(NMH(KK)+NTDEC(KK))*SBL(I)*CCREL(IREG(I))*NE
:CLITYPE(I) + (1.00 - RADPX)
10 CONTINUE
IF (NN.EQ.1)35,15
15 MM=NN-1
NN=NN+1
DC 30 J=1,NN
DC 20 I=1,MM
NA=JGX(I)
NM=JGX(I+1)
IF (TCA(NA).LT.(CA(NB)) <0.19
19 JGX(I)=NM
JGX(I+1)=NA
20 CONTINUE
30 CONTINUE
35 VIDX=0.
DC 300 NN=1,3
82 NIX=NTX(NN)*PATX
PMK = MINIF (PATX , NTX / NCBJ)
99 V2=0.
DC 250 J=1,M
VI=VG(J)-VTCA(JGX(I)+J)
S = 0.
DC 200 I=1,NN
NA=JGX(I)
KK = IPAY(N)
K = ITYPE(N)
IF (I - NN) 150, 182, 150
150 NI=JGX(I+1)
152 S = S + (NMH(KK)+NCHEP(N))*TABLEMUP(PMK*(1. - PMK) * AMUP(N+J))
153 VI = VI + (VTCA(N+J) - VTCA(NI,J)) * FMUP(S)
GO TO 200
182 S = S + (NMH(KK)+NCHEP(N))*TABLEMUP(PMK*(1. - PMK) * XMUP(N+J))
VI = VI + VTCA(N+J) * FMUP(S)
200 CONTINUE
210 FORMAT (1H , 315, 3F10.2)
250 V2=V2+VI
300 VTDX=VTDX+PMK*(NN)*V2
CALL PRNTALL(20)
RETURN
END

```

S-STS RESVAL

11/29/71

ED

0

PAGE NO.

4

RESVAL

IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00456
00050

RESVAL

#PNREG
#PNRGNP
LAMBDA
LAMBDA
WPNTE
MASTER
DYNAMIC
PAYLOAD
LSCDEF
DEFENSE
WPUKPN
14726

EXTERNAL SYMBOLS

Q1004100
Q000100
TARLEWUP
FMUP
PHNTALL
MINIF

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
C00360	ALERTDLY	U0417							
P00415	REGIN.								
C00000	CC								
C00000	CCREL	U0117							
C00120	CEP								
C00004	CENTRYLOC								
C00045	COST								
P00436	COUNT.	U0231	00232						
P00042	CRFMT.	U0334							
C00037	FAULT								
C00002	DESIG								
P00001	DICT.	U0205	00265	00277	00320	00325	00352		
C00034	DISTUF								
C00035	DISTOG								
C00000	DNARRAY								
C01130	DPREMIUM								
C00047	DPROFIT								
P00420	ENDING.	U0354	00415	00416	00416	00417			
P00000	EXIT.	U0422							
C03720	EXPASH								
C00005	FLAG								
X00004	FMUP	U0276	U0324						
P00042	FORMAT.								
C00021	FVAL								
C00014	H								
P00437	I	U0057	U0060	U0075	00077	00127	00145	00147	00227
C01750	IALERT								
C00310	IASH								
C00740	ICLASS								
C00030	ICLASSN								
C00001	IDENTAC								
C00055	IG								
C11525	IGX								
C00027	IMCLASS								
C00000	IMDATE								
C00051	IMECT								
C00031	IMTYPE								
C10154	ILAW								
C00550	IMRV								
P00357	IN00011.	U0251	U0271	U0304	00362	00375	U0404		
P00360	IN00012.	U0273	U0361	U0374	00413				
C00001	INACTIVE								
C00001	INDEXAC								
C00033	INDYPEN								
P00415	INITIAL.	U0053							
C01750	ISOTHER								
C02570	IPAY	U0063	U0063	U0236	00237				
C01440	IPENCODE								
C01320	IRECMODE								
C02570	IREFUEL								
C01130	IREF								
C00002	ISIDE	U0100	U0100						
C11616	ISTARAY								
C00053	ITGT								

S.ATS	RESVAL	ED	0	PAGE NO.	6
C01440	I TYPE	00061	00102	00103	00240
C00050	I MH01				00241
C00170	I MH02				
P00127	.10	00066			
P00135	.15	00074			
P00245	.150	00244			
P00250	.152				
P00271	.153				
P00303	.182	00243			
P00161	.19	00157			
P00164	.20	00160			
P00332	.200	00302			
P00334	.250				
P00165	.30				
P00342	.300				
P00171	.35				
P00075	.7	00134			
P00077	.8	00073			
P00174	.82				
P00070	.9				
P00210	.99				
P00425	.EASER.				
P00042	.210	00112	00125	00203	00206
P00423	.NSTIFF.	00275	00307	00316	00322
P00440	J	00102	00116	00120	00223
P00003	JGX	00141	00212	00215	00336
C00000	JTGT	00076	00151	00162	00220
C11616	JTGTX				
P00441	K	00062	00242		
P00442	KK	00064	00105	00254	00307
C00113	KRR				
C00000	LAM				
C00000	LAMEF				
C00303	LON	00042			
C11617	LNEXT				
C14725	LSTMAX	00042			
C00013	M	00340			
C10153	MACCOST				
C11622	MACCSX				
C16152	MAXKILL				
C11621	MAXKILX				
C04230	MG				
C04230	MGGCUP				
X00006	MINIF	00204			
C10151	PINKILL				
C11620	PINKILX				
C16155	P150EF				
C11623	P15DEX				
P00443	MMH	00136	00145		
C10156	MORR				
C12445	MORRX				
P00041	MP				
P00041	MPAYLCAD				

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DATE

MESVAL

DATE	MESVAL	ED	PAGE NO.
CU1751	MUP		
P00444	N		
P00445	N1		
P00446	NA		
C11024	NACTV		
CU0500	NADEC		
CU0500	NADECCYS		
CU0023	NALERT		
CU0500	NALRTDLY		
CU0240	NASH		
CU0016	NASMTYPE		
P00447	NB		
CU0336	NBLN		
CU0010	NBNDRY		
CU0022	NCLASS		
CU0360	NCM		
CU0026	NCNTRY		
CU0021	NCOMPLEX		
CU0004	NCORR		
CU0025	NCRTYPE		
CU0430	NDECCYS		
CU0005	NDPEN		
CU0013	NG		
CU0013	NGRUP		
CU0020	NK		
P00451	NNN		
P00355	NCBJ		
CU0000	NCBMB1		
CU0120	NCBMB2		
CU0023	NCOTHER		
CU0001	NCWEP		
CU0015	NPAYLOAD		
CU0006	NREGOVEN		
CU0007	NREF		
CU0011	NREG		
CU0003	NRTPT		
CU0020	NTANKBAS		
CU0430	NTDEC		
CU0024	NTGTS		
CU0014	NTGTBASE		
CU0000	NTX		
P00356	NTXI		
CU0012	NTYPE		
CU0054	NUM		
CU0052	NUMFIX		
CU0000	NWHD		
CU0017	NWHDTYPE		
CU0000	NWPN		
P00361	P00001.0		
CU0044	PAYOFF		
CU0007	PEN		
C10466	PEX		
C12755	PEX		

CU0006	PKTX	CU201	CU206				
CU0020	PREMILM	CUJ51					
CU0005	PNTALL						
CU0046	PROFIT						
CU0011	PXX	CU207	CU253	CU304	CU306		
CU0003	PWK	CU343					
CU0001	PX	CU113					
CU0002	QLOU*100	CUJ51					
CU0002	QROGICT	CU000					
CU0013	MADPA	CU123					
CU0000	RANGE						
CU0020	RANGEDEC						
CU1060	HANGREF						
CU0311	HATM						
CU0310	REFTIME						
CU1200	REL	CU121					
CU0050	HESVAL	CU050					
CU2571	WISK						
CU0151	RVAL						
CU0007	RX						
CU0053	S	CU226	CU270	CU300	CU322	CU323	CU326
CU2260	SBL	CU115					
CU0240	SPEED						
CU1331	SSIG						
CU1010	STARRAY						
CU1405	STK2X						
CU1365	STKX						
CU0310	SURPAP						
CU0003	TABLEMUP	CU264	CU317				
CU0032	TARDEF						
CU0003	TASK						
CU0024	TAU						
CU0007	TGTLAT						
CU0010	TGTLONG						
CU0006	TGTMULT						
CU0000	TGTNAME						
CU0011	TGTRAD						
CU0041	TGTHI						
CU0014	TINTFAC						
CU0311	TCA	CU154	CU156	CU156			
CU0245	TCARR						
CU1235	TCAX						
CU0130	TS000C1	CU057					
CU0167	TS000C2	CU143					
CU0165	TS000C3	CU146					
CU0340	TS000C5	CU214					
CU0334	TS000C6	CU231					
CU0621	TVALICA						
CU0367	UP000C1	CU142	CU213	CU337	CU363	CU370	CU376
CU0400	UP000C7	CU235	CU401	CU403	CU405		
CU0407	UP00010	CU247	CU410	CU412	CU414		
CU0454	V1	CU225	CU301	CU330	CU331	CU335	
CU0455	V2	CU211	CU334	CU335	CU344		
CU0010	V3	CU222	CU222				

SATS	RESVAL	11/29/71	ED	0	PAGE NO.	9
CU0040 VT						
CU0151 VTD						
CU0000 VTOX						
CU0012 VIC						
CU0131 VISA	CU171	00172	00345	00345	00346	
CU0310 WLAT	CU224	00224	00272	00272	00274	00327
CU0020 WLONG						
CU0050 WRTST						
PU0060 WSO0001.	CU131	00131				
PU0144 WSO0002.	CU170	00170				
PU0151 WSO0003.	CU164					
PU0174 WSO0004.	CU350					
PU0215 WSO0005.	CU341					
PU0233 WSO0006.	CU333					
CU0360 XDEG						
CU0776 XHUP	CU252	00252	00305	00305		
CU3100 YIELD						
CU350 SYMBOLS						

```

SUBROUTINE RANGEMOD
  CSUBR      RANGEMOD  LJUN71 *****
  C          THIS ROUTINE ADJUSTS WEAPON GROUP RANGES FOR THE *EAPON
  C          ALLOCATION PHASE
  C
  CUSE      *PNTYPE  LJUN71 *****
  C          USED BY ALLOCATE, MULLON, PREMIUMS, PRINTNG, MESVAL, DEFALOC
  C
  C          COMMON/*PNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTDLY(80)
  C          1,ALRTDLY(80),RANGEDEL(80),ICLASS(80),MANGREF(80),REL(80)
  C          2,INCODE(80),IPENCODE(80)
  C          TYPE REAL NALRTDLY
  C
  CEND      *PNTYPE *****
  CUSE      RANGE  LJUN71 *****
  C          COMMON/RANGE/ RANGEMUL(200), NANGEMUL(200), RANGEMIN(200)
  C
  C          RANGE *****
  C          IDUMMY  LJUN71 *****
  C
  C          THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C          SINCE IT REDEFINES COMMON /*AD*PN/, IT SHOULD NEVER BE USED IN
  C          CONJUNCTION WITH COMMON /*AD*PN/.
  C
  C          COMMON /*AD*PN/ INPUT(10), NVARS, NAMES(40), INVALU(2*40),
  C          1 INDEX1(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
  C          2 MYFORM(100), MYTYPE(100), MYVAL(100), FVAL(100),
  C          3 MYGCT(100), NDEFLT, FILLER(5560)
  C
  C          EQUIVALENCE (MYVAL, FVAL)
  C
  C          IDUMMY *****
  C          *PNGRP  LJUN71 *****
  C          USED BY ALLOCATE, MULLON, PREMIUMS, PRINTNG, MESVAL, DEFALOC
  C          STALL
  C
  C          COMMON/*PNGRP/NPNS(2*40),*LAT(200),*MLONG(200),
  C          INEG(200),ITYPE(200),JALENT(200),SBL(200),INEFUEL(200),YIELD(200)
  C          2 * REFTIME(200), EXPASH(200), MURQUP
  C          EQUIVALENCE(INEFUEL,IPAY)
  C          DIMENSION IPAY(200)
  C          DIMENSION IOTHER(200)
  C          EQUIVALENCE (IOTHER,IMLENT)
  C          EQUIVALENCE (MUR, MURQUP)
  C          *PNGRP *****
  C
  C          TYPE INTEGER G
  C
  C          PRINT 900
  C          900 FORMAT(/5X,*USEM INPUT INFORMATION
  C          1GE OLD RANGEREFF NEW MANGEREFF//)
  C
  C          40 READ 901, (INPUT(I), I = 1, 4)
  C          901 FORMAT(3A8,46)
  C          G = NUNGET(INPUT(1), 10)

```

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```

9.5 DECODE(3J,9.5,INPUT(1)) R, RF
   FORMAT(10X,2F(10.0))
   IF (G) 80, 80, JC
30 RANGEMUL(G) = R
   IF (RF .LE. V) 40, 50
40 RANGEMUL(G) = R
   GO TO 6C
50 RANGEMUL(G) = RF
50 K = ITYPE(G)
   K = RANGE(K) * RANGEMUL(G)
   RF = RANGEREFF(K) * RANGEMUL(G)
   PRINT902, (INPUT(1),1 = 1, 4),G,RANGE(K),R, RANGEREFF(K), RF
9.2 FORMAT(1X,3A,40,3X,13,2(3X,F8.2),4X,F8.2,6X,F8.2)
   GO TO 2C
C
C   ENTRY MINNNGE
C
   PRINT 906
9.6 FORMAT(7X USER INPUT INFORMATION GROUP MINIMUM RANGE=)
70 READ 903, (INPUT(1),1=1,3)
903 FORMAT(2A9,44)
   G = NUMGET(INPUT(1), 10)
   DECODE(20,9, INPUT(1)) RMIN
   IF (G) 80, 80, 71
71 RANGEMIN(G) = RMIN
   PRINT 904, (INPUT(1),1=1,3),G,RMIN
9.4 FORMAT(2X,2A9,44,4X,13,5X,F9.2)
   GO TO 7C
80 RETURN
   END

```

20000
21000
22000
23000
24000
25000
26000
27000
28000
29000
30000
31000
32000
33000
34000
35000
36000
37000
38000
39000
40000
41000
42000
43000
44000
45000
46000
47000
48000
49000

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0.475 RNDGCD

PROGRAM LENGTH
ENTRY POINTS

ALOCK NAMES

MINIAGE
RNDGCD

MPATPE
RANGE
ADUAPN
MPNDRP

EXTERNAL SYMBOLS

TREND,
QBUICF,
NUMGET
ISM,
DEC,
SIM,
UNSIMUL.

RNDGCD

IDENT

0332
0223
JULUC
0156
0113
14251
04231

DATA	NAME	11/29/71	ED	0	PAGE NO.	4
C00160	ALERTDLY					
C00117	BEGIN.					
C00120	CEP					
C00310	CNVRT11.	00141	00142	00143	00217	00262
		00303	00307			
P00003	CRFMT.	00114	00131	00252	00312	
A00005	DEC.	00136	00257			
P00001	DICT.	00104	00110	00132	00137	00225
		00231	00234	00260	00265	00311
P00321	ENDING.	00226	00313			
P00000	EXIT.					
C00320	EXPASM					
C01361	FILLER					
P00003	FORMAT.					
C01050	FVAL					
P00314	G					
P00114	G000009.	00134	00151	00163	00207	00306
P00131	G000001.	00106				
P00146	G000002.	00114				
P00222	G000003.	00135				
P00235	G000004.	00175				
P00252	G000005.	00227				
P00266	G000006.	00235				
P00312	G000007.	00256				
P00325	I	00273				
		00121				
		00304				
C01750	IALERT					
C00740	ICLASS					
C00203	INDEX1					
C00253	INDEX2					
C00323	INDEX3					
P00317	INITIAL.					
C00000	INPUT	00105	00123	00205	00242	00301
		00124				
		00302				
C00063	INVALU					
C01750	ISOTHER					
C02570	IPAY					
C01440	IPENMSOE					
C01320	IRECMSOE					
C02570	IREFUEL					
C01130	IREF					
C01440	IType	00164				
P00114	.20	00164				
P00150	.30	00222				
P00155	.40	00154				
P00160	.50	00154				
P00163	.60	00157				
P00235	.70	00312				
P00270	.71					
P00313	.80	00147	00267	00267		
P00003	.900	00111				
P00024	.901	00117				
P00034	.902	00206				
P00065	.903	00240				

P0071 ..934
 P0030 ..905
 P0053 ..936
 P00326 K
 C04230 MG
 C04230 MGROUP
 P00223 MINRNGE
 C00373 MORE
 C00340 MYFORM
 C01614 MYGIC
 C00374 MYNAME
 C00704 MYTYPE
 C01050 MYVAL
 C00500 NALRTDLY
 C00013 NAMES
 C01360 NDEFLT
 X00003 NUNGET
 C00012 NVARS
 C00000 NWPNS
 X00002 QBDICT.
 X00007 UNSINGL.
 P00027 R
 C00000 RANGE
 C00020 RANGEDEC
 C00020 RANGEEMIN
 C00000 RANGEEMUL
 C01060 RANGEREFF
 C00010 RANGERMUL
 C00010 REFTIME
 C01000 REL
 P00330 RF
 P00331 RMIN
 P00102 RANGECOD
 C02260 SBL
 C00000 SPEED
 X00006 STM.
 X00001 THEMU.
 X00004 TSH.
 C00310 FLAT
 C00020 WLONG
 P00122 WSO0001.
 P00002 WSO0002.
 P00043 WSO0003.
 P00001 WSO0004.
 C00100 YIELD
 00137 SYMBOLS

00276
 00140
 00232
 00165
 00210
 00223
 00252
 00131
 00000
 00115
 00142
 00106
 00271
 00151
 00171
 00156
 00143
 00203
 00102
 00107
 00112
 00115
 00126
 00206
 00247
 00305

00261
 00166
 00210
 00224
 00155
 00210
 00272
 00167
 00152
 00172
 00157
 00160
 00270
 00153
 00270
 00107
 00127
 00236
 00274
 00220
 00144

00212
 00171
 00211
 00162
 00172
 00173
 00174
 00216
 00230
 00250
 00264
 00310

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```

SUBROUTINE SETABLE
  COUN = 1
  CUSE = 1
  C2NO = 1
  SETABLE 1000
  TABLE 1000
  COMMON /TABLE/ TABLE(1001)
  TABLE 1000
  S = 0.0
  EPS = .00001
  TABLE(1) = 10.0
  DO 3 K = 2, 1001
    S = S + .001
    X = 1.
    1 SS = EXP(-X) * (1. + X)
    EMK = (SS - S) / SS
    IF (ABS(EMK) - EPS) 3, 3, 2
    2 X = X * (1. + X) / X * EMK
    GO TO 1
    3 TABLE(K) = X
  RETURN
END

```

1000
52000
2000
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
16000

IDENT SETABLE

PROGRAM LENGTH J0063
ENTRY POINTS J0003
BLOCK NAMES J1751

EXTERNAL SYMBOLS Q0001CT.
EXPP

504TS 5143C 27013C

SETABLE	11/29/71	ED	0	PAGE NO.	3
P00044 BEGIN.	00045				
P00001 DICT.	00005				
P00046 ENDING.	00043				
P00055 EPS	00011			00044	
P00056 ERR	00030				
P00009 EXIT.	00047				
P00002 EXPZ	00023				
P00044 INITIAL.	00006				
P00021 .1	00037				
P00034 .2					
P00040 .3	00032				
P00050 .ERASER.	00022			00026	
P00057 K	00014				
X00001 08QDICT.	00000				
P00060 S	00010			00017	
P00003 SETABLE	00003				
P00061 SS	00027			00027	
C00000 TABLE	00012				
P00016 *S0000C1.	00042			00041	
P00062 K	00020				
00024 SYMBOLS					
	00035			00036	
	00037				
	00040				

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003

PAGE NO.

M

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```

SUBROUTINE SCRTMIS
  CSUBR   SCRTMIS  20CCT71  *****
  C
  C THIS SUBROUTINE SORTS THE INFORMATION ON THE
  C MSLTIME FILE INTO ASCENDING GROUP NUMBER ORDER. THIS FILE CONTAINS
  C THE TIMING INFORMATION FOR THE FIXED MISSILES
  C
  CUSE    FIXED  LJUN71  *****
  C       USED BY MULCON, STALL, DEFALOC, MDALCRU
  C
  C       COMMON/FIXED/IFIXT, ISTORE(8), IFW(31), TIME(30), NFIX*PS,
  C       1      SX(5), IFIXBEG, IFIXEND, SAVEFIX, IADD
  C
  C       TYPE LOGICAL SAVEFIX
  C       DIMENSION ITIME(30), IS(5)
  C       EQUIVALENCE (ITIME, TIME), (IS, SX)
  C
  C       IFIXT  INDEX OF FIRST FIXED TARGET
  C       ISTORE TEMPORARY STORAGE AREA
  C       IFW    INDEXES OF WEAPONS FIXED THIS TARGET
  C       TIME   WEAPON TIME OF ARRIVAL
  C       NFIX*PS TOTAL NUMBER OF FIXED MISSILES
  C       SX     SCRATCH ARRAY
  C       IFIXBEG ASSIGNMENT INPUT INDEX
  C       IFIXEND ASSIGNMENT INPUT INDEX
  C       SAVEFIX WHITE MSLTIME FILE ONLY IF TRUE
  C       IADD    IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TOTFILE
  C              IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TOTFILE
  C              IF POSITIVE - FIXED ASSIGNMENTS FROM TOTFIL* AND
  C                      CARD INPUT
  C
  C       COMMON/FIXED/SS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFTAR
  C
  C       IFIXTEMP TEMPORARY STORAGE AREA
  C       IFIXTAPE LOGICAL UNIT NUMBER - FILEHANDLER FILE
  C       IBCD    LOGICAL UNIT NUMBER - BCD FILE
  C
  C       NLFTAR  NOT ZERO IF MORE FIXES FOR THIS TARGET ON TOTFILE
  C
  C       FIXED *****
  C       WADWPN  LJUN71 *****
  C
  C       USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNO, MESVAL, DEFALOC,
  C       STALL, PRUP, SCRTMIS, TABLEUP, MDALCRU
  C
  C       COMMON /WADWPN/ JGTG, INACTIVE(200), ICAI(200),
  C       1  TVALTCA(200), VTCM(200*2), MUP(200*2), MISC(6*200*2),
  C       2  SSIG(200*2), MINKILL, MAXKILL, MAXCST, ILA*,
  C       3  MISPEF, MCHM(200), PEX(200), XAUP(200*2), JGTGX, LNEXT,
  C       4  MINKILA, MAXKILA, MAXCOSA, MISDEX, IACTV, IUXI(200), ICAI(200),
  C       5  MCHRA(200), PEXI(200), STRX(200*2), STRX(200*2), LSTMAX
  C
  C       TYPE REAL MUP, MINKILL, MAXKILL, MAXCST
  C       TYPE REAL MINKILA, MAXKILA, MAXCOSA
  C
  C       DIMENSION STARRAY(1607), ISTAWAY(1607)

```

```

EQUIVALENCE (STARAY, ISTARAY, JTGTX)
DATA (LSTMAX = 1007)
C
CEND
CUSE
      WADNPN *****
      TAPES 1JUN71 *****
      COMMON/FILES/TUTFILE(1),BASFILE(2),MSLTIME(2),ALOCSTAR(2),
1      TMPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE, PLANTAPE
C
C      TYPE INTEGER TUTFILE, BASFILE, ALOCSTAR, TMPALOC,
1      ALOCGRP, STRKFIL, EVENTAPE, PLANTAPE, ALOC12
C
C      COMMON/FILABEL/ INIDENT, INRUNNG, INDATE, INFORM,
1      INSECR, INTIME, INLNGTH, INCOMM(S)
C
C      COMMON/MYLABEL/ MYFORMT, MYSECR, MYLNTH, MYCOMM(S)
      COMMON/ITP/ITP
      COMMON/PTIDENT/ MYIDENT
      COMMON/ACPRINT/ ACPRINT
      COMMON/TWGRD/ITWORD
      EQUIVALENCE (ITWORD, ITWORD)
C
C      COMMON/LSCFIL/MPNTGT,ALOC1,ITPMSL
C
C      TYPE INTEGER MPNTGT, ALOC1
C
C      DATA (ALOC1 = -3) * (ITPMSL = 1)
C
C      EQUIVALENCE (ALOC12, ALOCSTAR(1))
C
CEND
C      TAPES *****
C
C      DIMENSION D(6000), FIATCA(1000), IFIXCA(1000), IGFIX(1000),
1      NDEXFIX(1000), DFIX(1000), TFIX(1000), INDX(1000)
C
C      TYPE INTEGER OFIX, TFIX
C
C      EQUIVALENCE (D, FIATCA, IFIXCA, JGT), (IGFIX, D(1001)),
1      (NDEXFIX,D(2001)), (DFIX,D(3001)), (TFIX,D(4001)),
2      (INDX, D(5001))
C
C      FIATCA (IFIXCA) TIME OF ARRIVAL
C      IGFIX GROUP NUMBER
C      NDEXFIX INDEX NUMBER OF TARGET
C      DFIX TARGET DESIGNATOR CODE
C      TFIX TARGET TASK SUBTASK CODE
C
C      TYPE LOGICAL IPRT
      DATA (MAXIN = 1000), (LREC=5), (IPRT=.FALSE.)
C
C      MAXIN MAXIMUM NUMBER OF MISSILES SORTED SIMULTANEOUSLY
C      LREC LENGTH OF FIXED MISSILE RECORD
C
C      MSLTIM = MSLTIME(1)
      ITP = ITPMSL
      CALL TERMTAPE
      IF (NFIAPS) 100, 100, 200

```

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FTNS-5

```

C
C      NO FIXED WEAPONS IN FILE
C
100 ITP = MSLIM
    MYLNGTH = LREC
    MYIDENT = TMSLTIME
    CALL SETWRIT
    ITWCRD = 999
    DO 110 I = 1, LREC
110  CALL WRWCRD
    CALL TERMTAPE
    PRINT ICGI
    RETURN
C
C      FIXED MISSILES
C
200 NTIMES = NFIXMPS / MAXIN
    NEXTA = AMQDF(NFIXMPS, MAXIN)
    IN = 10
    ICUT = 9
    ITP = ICUT
    MYIDENT = TMSCHATCH
    CALL SETWRIT
    ITWCRD = 999
    DO 210 I = 1, LREC
210  CALL WRWCRD
    CALL TERMTAPE
    ITP = ITMPMSL
    MYIDENT = TMSCHATCH
    CALL SETREAD
    MYDENSY = TMSCHATCH
    MYLNGTH = (NFIXMPS + 1) * 5
C
C      220 IF (NTIMES) 500, 500, 500
C
C      300 IF = IN
    IN = ICUT
    ICUT = IT
    ITP = ICUT
    MYIDENT = MYDENSY
    CALL SETWRIT
    ITP = IN
    MYIDENT = TMSCHATCH
    CALL SETREAD
    ITP = ITMPMSL
    DO 330 I = 1, MAXIN
    CALL RDARRAY(15, LREC)
    IGFIX(1) = IS(1)
    NUDEXFIX(1) = IS(2)
    UFIX(1) = IS(3)
    YFIX(1) = IS(4)
    INOX(1) = 0
    IF (IS(5) - 1H ) 320, 310, 320
310  FIXICA(1) = -99999.99
    GO TO 330
320  DECODE(5, 321, IS(5)) F
    
```

```

321 FORMAT(F5.2)
FIXTCA(I) = 1
330 CONTINUE
C
C      SORT NEXT BLOCK OF MISSILES
CALL ORDER(IGFIX, INDA, MAXIN)
CALL REORDER(INDX, MAXIN, 5, IGFIX, NOEXFIX, OFIX, YFIX,
1      FIXTCA, 0, 0)
C
C      MENGE COME AND TAPE
C
C      IF (IPRT) PRINT 1002
ITP = IN
CALL RDARRAY(IS, LREC)
DO 430 I = 1, MAXIN
C      DETERMINE LOWER GROUP NUMBER
400 IF (IGFIX(I) - IS(I)) 420, 410, 410
C      TAPE IS LOWER OR EQUAL
410 ITP = ICUT
CALL WARRAY(IS, LREC)
IF (IPRT) PRINT 1003, IS
ITP = IN
CALL RDARRAY( IS, LREC)
GO TO 400
C
C      COME GROUP NUMBER IS LOWER
420 ITP = ICUT
ITWORD = IGFIX(I)
CALL WRWORD
ITWORD = NOEXFIX(I)
CALL WRWORD
ITWORD = OFIX(I)
CALL WRWORD
ITWORD = YFIX(I)
CALL WRWORD
ITWORD = FIXTCA(I)
CALL WRWORD
IF (IPRT) PRINT 1003, IGFIX(I), NOEXFIX(I), OFIX(I), YFIX(I), FIXTCA(I)
430 CONTINUE
C
C      TERMINATE FILES
ITP = ICUT
ITWORD = 999
DO 440 I = 1, LREC
440 CALL WRWORD
CALL TERMTAPE
ITP = IN
CALL TERMTAPE
NTIMES = NTIMES + 1
IF (NTIMES) 900, 500, 300
C
C      BLOCK COMPLETE. FINISH REMAINDER OF FILE
500 IF (NEXTTA) 510, 510, 540
C
C      LAST BLOCK WAS COMPLETE. COPY TAPE
510 ITP = ICUT

```

91000
92000
93000
94000
95000
96000
97000
98000
99000
100000
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
112000
113000
114000
115000
116000
117000
118000
119000
120000
121000
122000
123000
124000
125000
126000
127000
128000
129000
130000
131000
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
143000
144000
145000
146000

FTNS.5

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```

MYIDENT = 7MSCHATCH
CALL SETHEAD
MYLENGTH = NFIX*PS + LMEC
ITP = MSLTIM
MYIDENT = 7MSLTIME
CALL SETWRITE
520 ITP = ICUT
CALL ROADWAY(IIS, LREC)
PRINT IC03, IS
ITP = MSLTIM
CALL WARRAY(IIS, LREC)
IF (IS(1) = 999) 520, 530, 530
530 ITP = ICUT
CALL TERTAPE
ITP = MSLTIM
CALL TERTAPE
GO TO 900

C
C      MORE ON TEMPORARY FILE
C 540 MYDENS = 7MSLTIME
IN = MSLTIM
MAXIN = NEXTRA
IPRT = .TRUE.
GO TO 300

C
C      PROCESS FINISHED TERMINATE INPUT FILE
C 900 ITP = ITPMSL
CALL TERTAPE
RETURN

C
1001 FORMAT(// * NO FIXED MISSILE INFORMATION SAVED)
1002 FORMAT(// * SORTED FIXED MISSILES// * GROUP INDEAC DESIG TASK ARRI
      1VAL TIME)
1003 FORMAT(1X, 14, 3X, IS, 2X, AS, 2X, A2, 3X, FI0.3)
END
147000
148000
149000
150000
151000
152000
153000
154000
155000
156000
157000
158000
159000
160000
161000
162000
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
175000
176000
177000
178000
179000
180000
181000

```

5.415 SORTMIS

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

SORTMIS

00576
00065

IDENT

SORTMIS

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ED

0

PAGE NO.

6

FIXED
FIXEDASS
WAUMPN
14726
FILES
FILABEL
MYLABEL
ITP
MYIDENT
NCHIDENT
TCHND
LOCFL
EXTERNAL SYMBOLS
TREND
Q3000040
Q3010040
Q000100
TERMTAPE
SETWRIT
WNRQ0
SETWRITE
SETREND
RDARWAY
ORDER
REGRUER
WNRWAY
ARQOF
DEC.
STM.
SLO.
QNSINGL.

DATA	SCNTRIS	11/29/71	ED	0	PAGE NO.	1
C00012	ALCGRP					
C00001	ALCCT1					
C00006	ALCCT2					
C00006	ALCCTAR					
C00002	BASEFILE					
P00557	BEGIN.					
P00550	CNVRT1.	00421	00423			
P00006	CHGMT.	00555	00555			
C00000	D					
X00017	DEC.					
C00670	DFIX	00241	00302			
P00001	DICT.	00070	00111			
		00057	00223			
		00174	00415			
		00334	00347			
		00427	00441			
		00533	00537			
		0007C	00133			
P00560	ENDING.					
C00016	EVENAPE					
P00000	EXIT.					
C00000	FIXTA	00250	00266			
P00006	FORMAT.	00106	00171			
P00133	G000000.	00125				
P00264	G000001.	00254				
P00316	G000002.	00310				
P00353	G000003.	00341				
P00430	G000004.	00413				
P00520	G000005.	00506				
P00565	I	00114				
C00017	IA00	00417				
C00013	IB00					
C00014	IFIXBEG					
C00015	IFIXEND					
C00012	IFIXIAPE					
C00000	IFIXTEMP					
C00000	IFIXTCA					
C00000	IFIXT					
C00011	IFW					
C00150	IGFIX	00235	00274			
C00625	IGX					
C00154	IL44					
P00566	IN	00145	00207			
C00001	INACTIVE					
C00007	INCOMM					
C00002	INDATE					
C00010	INDX	00244	00300			
C00003	INFORM					
C00000	INIDEAT					
P00557	INITIAL.	00070				
C00006	INLNKTH					
C00001	INHUNAC					
C00004	INSECR					
C00005	INTIME					
P00567	ISUT	00146	00210			
		00206	00331			
		00461	00433			
		00462	00501			
		00530				

5.15	SCRTMIS	IPRT	IS	11/29/71	ED	C	PAGE NO.	8
P0005	IPRT							
C00107	IS							
		00006	00306	00337	00411	00546	00242	00245
		00232	00233	00233	00236	00236	00242	00245
		00257	00322	00327	00327	00335	00515	00524
		00525						00525
C11616	ISTARAY							
C00001	ISTONE							
P00570	IT	00206	00207					
C00002	ITMMSL							
C00000	ITP							
		00002	00073	00073	00167	00167	00550	00550
		00074	00074	00103	00103	00146	00170	00211
		00217	00225	00225	00317	00317	00332	00362
		00433	00434	00447	00450	00463	00474	00502
		00521	00531	00531	00535	00535	00551	00521
		00112	00113	00134	00155	00365	00371	00401
		00401	00435	00435				
		00100	00100					
		00307						
P00102	.100							
P00310	.100001							
P00316	.100002							
P00341	.100003							
P00353	.100004							
P00413	.100005							
P00430	.100006							
P00116	.110							
P00134	.200							
P00160	.210							
P00203	.220							
P00205	.300							
P00251	.310							
P00254	.320							
P00267	.330							
P00325	.400							
P00331	.410							
P00361	.420							
P00430	.430							
P00440	.440							
P00457	.500							
P00462	.510							
P00501	.520							
P00530	.530							
P00541	.540							
P00550	.900							
P00561	.E4ASER.							
P00006	.100000							
P00007	.100001							
P00010	.100002							
P00011	.100003							
P00012	.100004							
P00013	.100005							
P00017	.100006							
P00020	.100007							
P00021	.100008							
P00022	.100009							
P00033	.100010							
P00051	.100011							
		00416	00511					

[illegible]

1991

5.475

SC-TMIS

10

PAGE NO.

0

ED

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C14105 STR2X
C13265 STRX
CU0014 STRKFIL
CU0107 SX
PU0575 T
XU0005 TERMTAPE
XU0640 TFIX
CU0000 TGFIFILE
XU0001 TMEND.
CU0050 TIME
CU0010 TMPALOC
CU0311 TGA
C12135 TGA
PU0121 TS000C1.
PU0163 TS000C2.
PU0270 TS000C3.
PU0431 TS000C4.
PU0443 TS000C5.
CU0021 TVALTGA
CU0000 TMSRU
CU1131 VTGA
CU0000 WPNTGT
XU0015 WRARRAY
XU0007 WRMCHD
PU0116 WS000C1.
PU0160 WS000C2.
PU0230 WS000C3.
PU0325 WS000C4.
PU0440 WS000C5.
XU0016 XMCDF
CU0776 XMUP
CU0265 SYMBCLS

CU0261 U0264
CU0075 U0123
CU0243 U0243
CU0131 U0262
CU0445 U0451
CU0400 U0400
CU0351 U0426
CU0314 U0516
CU0405 U0405
CU0333 U0522
CU0116 U0160
CU0122 U0122
CU0164 U0164
CU0271 U0271
CU0432 U0432
CU0444 U0444
CU0142 U0142

CU0356 CU0372 CU0376 CU0402 CU0406 CU0440


```

CEND      PRINT      *****
CUSE      WADOUT      1JUN71 *****
C         USED BY STALL, WAD, WADOUT, AND PRINTNG=
C
C         COMMON/WADOUT/
C         1          PVRMX,IPVRMX,PPMX,IPPMX,DVRMN,DPVRN,DPMN,DPDMN,NUMMAX,NUM
C         2          ,TPMX,NICANTOMAX,VTMIN,VTMAX,ALPHA,VTEF,VTZC
C         3          WADOUT *****
C         4          WADFINAL 1JUN71 *****
C         5          USED BY STALL, WAD, WADOUT, AND PRINTNG=
C
C         COMMON/WADFINAL/
C         1          VIP(200),DELVI(30),NUMC,IGS(30),ICP,ICPS,CTSPILL
C         2          WADFINAL *****
C         3          TYPE INTEGER CPP
C         4          DIMENSION ISTRJED(30)
C
C         WADMPN      1JUN71 *****
C
C         USED BY MULCON, PREMIUMS, WAD, WADOUT, PRINTNG, RESVAL, DEFALOC,
C         STALL, FMUP, SUTRSH, TABLEUP, RDALCRD
C
C         COMMON /WADMPN/ JTST, INACTIVE(200), TCA(200),
C         1          TVALTCA(200), VTCA(200,2), MUP(200,2), MISK(6,200,2),
C         2          SSIG(200,2), PINKILL, MAXKILL, MAXCOST, ILA*,
C         3          MISDEF, MOMM(200), PEX(200), MUP(200,2), JTIX, LNEXT,
C         4          MINKILL, MAXKILA, MAXCOSA, MISDEX, NACTV, IGA(200), TCA(200),
C         5          MOHRX(200), PEX(200), STRX(200,2), STRX(200,2), LSTMAX
C
C         TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C         TYPE REAL MINKILA, MAXKILA, MAXCOSA
C
C         DIMENSION STARRAY(160/), ISTARAY(160/),
C         EQUIVALENCE (STARRAY, ISTARAY, JTIXA)
C
C         DATA (LSTMAX = 160/),
C
C         WADMPN *****
C         FIXED      1JUN71 *****
C         USED BY MULCON, STALL, DEFALOC, RDALCRD
C
C         COMMON/FIXED/IFTGT, ISTORE(8),IFW(31), TIME(30), NFIXMPS,
C         1          SX(5), IFABEG, IFKEND, SAVEFIX, IADU
C
C         TYPE LOGICAL SAVEFIX
C         DIMENSION ITIME(30), IS(5),
C         EQUIVALENCE (ITIME, TIME), (IS,SX)
C
C         IFTGT      INDEX OF FIRST FIXED TARGET
C         ISTORE     TEMPORARY STORAGE AREA
C         IFW        INDEXES OF WEAPONS FIXED THIS TARGET
C         TIME       WEAPON TIME OF ARRIVAL
C         NFIXMPS    TOTAL NUMBER OF FIXED MISSILES
C         SA         SCAIACH ARMY
C         IFABEG     ASSIGNMENT INPUT INDEX

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C      IFIXEND      ASSIGNMENT INPUT INDEX
C      SAVEFIX      WRITE MSLTIME FILE ONLY IF TRUE
C      IADD         IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C      C           IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C      C           IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C      C           CARD INPUT
C      COMMON/FIXEDASS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFTAR
C
C      IFIXTEMP     TEMPORARY STORAGE AREA
C      IFIXTAPE     LOGICAL UNIT NUMBER - FILEHANDLER FILE
C      IBCD         LOGICAL UNIT NUMBER - BCD FILE
C
C      NLFTAR       NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C      C           *****
C      C           FIXED *****
C      C           #PNGRP 1JUN71 *****
C      C           USED BY ALLOCATE, MULLON, PREMIUMS, PRNTNCH, RESVAL, DEFALOC
C      C           STALL *****
C      C           COMMON/PNGRP/PNS(200),ALAI(200),WLONG(200),
C      C           11REG(200),1TYPE(200),1ALERT(200),SBL(200),1REFUEL(200),YIELD(200)
C      C           2, REFTIME(200), EXPASH(200), MGRKUP
C      C           EQUIVALENCE(11REFUEL,IPAY)
C      C           DIMENSION IPAY(200)
C      C           DIMENSION 1GTHK(200)
C      C           EQUIVALENCE (1GTHK,I-LERT)
C      C           EQUIVALENCE (MGRKUP,MGRKUP)
C      C           #PNGRP *****
C      C           #PNTYPE 1JUN71 *****
C      C           USED BY ALLOCATE, MULLON, PREMIUMS, PRNTNCH, RESVAL, DEFALOC
C      C
C      C           COMMON/PNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTIDLY(80)
C      C           1,ALRTDLY(80),MANGEDC(80),ICLASS(50),MANGERE(80),REL(80)
C      C           2,IRECNO(80), IPENMOUE(80)
C      C           TYPE REAL NALRTDLY
C      C           #PNTYPE *****
C      C           TAPES 1JUN71 *****
C      C           COMMON/FILES/TGTFILE(2),BASFILE(2),MSLTIME(2),ALCOTAR(2),
C      C           1 TMPALOC(2),ALOGRP(2),STRKFL(2),EVENTAPE, PLANTAPE
C      C
C      C           TYPE INTEGER TGTFILE, BASFILE, ALCOTAR, TMPALOC,
C      C           1 ALOGRP, STRKFL, EVENTAPE, PLANTAPE, ALCOTAR
C      C
C      C           COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFCRH,
C      C           1 INSECR, INTIME, INLNTH, INCOMH(5)
C      C
C      C           COMMON/MYLABEL/ MYFORMT, MYSECR, MYLNTH, MYCOMH(5)
C      C           COMMON/1TP/1TP
C      C           COMMON/MYIDENT/ MYIDENT
C      C           COMMON/MOPRINT/ MOPRINT
C      C           COMMON/TWCRU/1TWCRD
C      C           EQUIVALENCE (1TWCRD, 1TWCRU)
C      C
C      C           COMMON/LOCFIL/MPTGT,ALOC11,11MPMSL
C

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C          TYPE INTEGEM WPNTGT, WLOCT1
C          OMTA (ALOC11 = -3) * (IMPMSL = 1)
C          EQUIVALENCE (ALOC12, WLOCT1R(1))
C          TAPES *****
CEND        IGTRED(1) = U *****
C          SETUP PORTION OF STALL (BLOCK 1)
C          IF ((VERIFY *SQ.2).AND.(PROGRESS*EQ.2.1190.2
C IF EQ 2 RECALCULATE OLD ALLOCATION WITH NEW CORRELATIONS
C          C
C          IF(NUMFIX*GT.0) 128,129
C          PUT DOWN FIXED WPNS
C          DELTSAVE=DELTVL
C          NMULT = CTMULT
C          WADDP=1 $ SIMLPRIN=244
C          CALL WAC
C          NTEMP=NUMFIX
C          DC 123 J=1,NTEMP
C          IF(NPASS*GT.1) 124,125
C          G=IGC(J)
C          GO TO 126
C          G=IG(J)
C          FOR NPASS GT 1,DEFALOC ALLOCATION ON LAST PASS,PUT FIXED WPNS DOWN
C          WADDP=3
C          NMWEP=1
C          IF(KORR(J))131,132,134
C          NMWEP=KORR(J)
C          NTEMP=NTEMP+1-NMWEP
C          DC 133 AN=1,NMWEP
C          IF(INACTIVE(G)*EQ.100) 444,445
C          CHECK INACTIVE FLAGS OF FIXED WPNS
C          PRINT 446, G, TOTNAME, INDEKNO, ITGT
C          FCMPAT(//IX,119(11)*//,19H *EAPONS FROM GROUP,13,20H CANNOT REACH
C          1 TARGET,1X,46,11H = INDEK = //IX,119(11)*//
C          NUMFIX = NUMFIX - 1
C          GO TO 123
C          445 STALPRIN=707
C          INACTIVE(G)=U
C          IF(NPASS*GT.1) 443, 447
C          447 K = ITYPE(G)
C          IF((ICLASS(K)*EQ. 1).AND. SAVEFIX) 448,443
C          448 IS(1) = G
C          IS(2) = INDEKNO = 1
C          IS(3) = DESIG
C          IS(4) = TASK
C          IS(5) = ITIME(J)
C          DC 449 JX = 1, NMULT
C          IS(2) = IS(2) + 1
C          ITP = ITPMSL
C          CALL WARRAY(15, 5)
C          449 NFIXWPS = NFIXWPS + 1
C          443 CALL WAC
C          DELVT(NUM) = VIG

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133 CONTINUE
123 CONTINUE
C
C GO TO 127
C TO INITIALIZE FOR ZERO WPNS (BLOCK 2)
129 DELTSAVE=DELVAL
3 WADCP=1
STALPRIN=202
CALL WAD
IF (NUMFIX*GT*U) 130,127
127 NN=0
C
C IS THERE ANY WPN WITH POS POT PROFIT (BLOCK 3)
4 IF (PPMX*GT*U*U15*89)
C
C ADD WEAPON WITH MAX POTENTIAL EFFICIENCY (BLOCK 4)
5 WADCP=3
G=IPVRMX
STALPRIN=204
6 CALL WAD
C
C IF MORE PROFIT AVAILABLE TO ALLOCATION LOOP (POINT 4)
7 IF (PPMX*GT*U*U) 30*9
C
C IF NO MORE PROFIT AVAILABLE SELECT BEST SINGLE WPN AND EXIT ***
9 IF (IDPMN*EQ*IPPMX) 89*10
10 STALPRIN=206
NN=IDPMN
5 WADCP=4
5 CALL WAD
G=IPPMX
5 WADCP=3
5 CALL WAD
5 GO TO 89
C
C INITIAL ALLOCATION LOOP (FOR MULTIPLE WPN TARGETS)
C
C ADD WEAPON WITH GREATEST POTENTIAL EFFICIENCY (BLOCK 1)
30 WADCP=3
G=IPVRMX
STALPRIN=301
IGTRIED(1)=G
IF (INTC*LI*NTICAMAX) 29*85
29 IF (NUM*LT*NUMMAX) 31*40
31 CALL WAD
C
C UC ALL WPNS ALLOCATED STILL HAVE POS PROFIT (BLOCK 2)
32 IF (IDPMN*GE*U*U) 36*33
C
C DELETE WEAPON LEAST PROFITABLE (BLOCK 3)
33 WADCP=6
STALPRIN=303
NN=IDPMN

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34 CALL WAD
35 GO TO 32
C
C IS THERE ANOTHER WEAPON WITH POS POTENTIAL PROFIT (BLOCK 4)
C CYCLE UNTIL NO MORE PROFIT AVAILABLE
36 IF (PVRMX.GT.1.0000001)30,37
C
C ARE MORE THAN ONE WEAPON ASSIGNED (BLOCK 5)
37 IF (NUM.GT.1)46,10
C GO TO REFINEMENT LOOP
C
C MULTIPLE WPN REFINEMENT LOOP
C
C INITIALIZE LOOP AND TEST FOR NON-PROFITABLE WPNs (BLOCK 2)
46 ITRY=0
  NREMOVE = 0
  KCUNT=0
  IPOINT = NUM
47 NTRIED=1
  NSTORE=1
48 IF (DPMN .GE. 0.0) 54,51
49 IGTried(1)=5
  GO TO 47
C
C REMOVE WPN WITH MINIMUM PROFIT (BLOCK 3)
51 #DOCP=4
  STALPRIN=403
  NM=IDPMN
  NTRIED=0
  NSTORE=0
  ITRY=0
52 CALL WAD
53 GO TO 48
C
C TEST FOR ADDITIONAL WPN WITH POS. POT. PROFIT (BLOCK 4)
54 IF (PVRMX.GT.1.0000001)55,58
C
C ADD WPN WITH MAX ADDITIONAL PROFIT (BLOCK 1)
55 #ADCP=3
  GRIPPMX
  STALPRIN=401
  IF (INTCALI.NTCAMAX)59,85
59 IF (NUM.LI.NUMMAX)56,8.
56 CALL WAD
C
C TEST TO SEE IF SAME WPN JUST REMOVED (BLOCK 1A)
C IF (G .EQ. ITRY) 57,49
C IF SO NOTE SUCCESSFUL TRY
57 NTRIED=NTRIED+1
  NSTORE=NSTORE+1

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      IGTried(INSTORE)=IGTRY
      GO TO 48
C
C   IF ONLY ONE WPN CHECK AVAIL OF OTHER ONE WPN ESTS (BLOCK 5)
C   58 IF (NUM .EQ. 1) 10.65
C
C   IS IT FINISHED (BLOCK 7)
C   64 NTried=NTried+1
C   65 KOUNT=KOUNT+1
C   66 IF (KOUNT.GT.NUM*QUALITY)89.67
C   67 IF (NTried.GE.NUM)89.68
C   68 IPOINT = IPOINT +1
C   69 IF (IPOINT.GT.NUM)63.69
C   63 IPOINT = NUMFIX+1
C
C   SELECT WPN TO REMOVE (BLOCK 10)
C   69 N# = IPOINT
      IGTry=IG(N#)
      DC 72 ISTOREX = 1, NSIGRE
      71 IF (IGTRY .EQ. IGTried(ISTOREX)) 64. 72
      72 CONTINUE
C
C   REMOVE WPN SELECTED (BLOCK 11)
C   73 WADCP#
      STALPRIN=11
      75 CALL WAD
      76 GO TO 55
C
C   SUBSTITUTE HIGHER PROFIT WPN--IGNORE EFFICIENCY
C   80 NREMOVE=REMOVE+1
      IF (REMOVE.GE.NUM)89.81
      81 IF (G.EQ.IG(N#))89.51
C
C   RELAX TCA ERROR ALLOWANCE, TRY AGAIN
C   85 IF (NTCA .GE. 1000) 89. 86
      86 DELTVAL = 2.0 * DELTVAL
      GO TO 3
C
C   PRINT TERMINATION STATE
C   89 WADCP#2
      DELTVAL = DELTSAVE
      CALL WAD
      IF (VT - VIMAX) 83. 83. 82
      82 ALPHA = 0.0
      83 RETURN
C
C   DUPLICATE OLU ALLOCATION
C   INITIALIZE TO ZERO WEAPONS
      90 WADCP = 1
      IF (NBLN .GE. 0) 93. 94

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182000
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FTNS.5

94 RETURN
93 STALPRIN=501
CALL WAD
91 IF INUM=LT.NUMC) 92,B9
92 WADCP = 3
C ADD OLD WPN GROUPS
9 = IGCINUM + 1)
STALPRIN = 502
CALL WAD
GC TO 91
END

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237000
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167C

DATA

STALL

IDENT

STALL

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MASTER
CONTROL
DYNAMIC
PHINEED
PHINI
HAUCUT
HAUFINAL
WAUNPN
FIXED
FIXEDASS
WPNKMP
WPNKMP
FILES
FILABEL
MYLABEL
IIP
MYIDENT
NGPRINT
TACKU
LOCPIL

00070
00102
00027
00022
00304
00002
00001
00022
00010
14720
00120
00015
04231
01500
00020
00014
00010
00001
00001
00001
00001
00003

EXTERNAL SYMBOLS

Q1Q1Q100
THEND.
Q3Q00040
Q1Q03100
Q8Q01CT.
WAD
WRARAY
STM.
UNSLINGL.

5.475	STALL	11/29/71	ED	0	PAGE NO.	10
CU0360	ALERTDLY					
CU0312	ALCCGRP					
CU0001	ALCCTI	00041				
CU0006	ALCCT2					
CU0009	ALCCTAR					
CU0017	ALPHA	00604				
CU0002	BASFILE	00603				
CU0036	BEGIN.	00637				
CU0120	CEP					
CU0001	CLOSE					
CU0004	CNTRYLOC					
PU0635	CNVRTI.	CU175	00177	00200	00201	
CU0010	CRR					
CU0013	CRR2					
CU0045	COST					
PU0041	CRPMI.	00204				
CU0037	CIMULT	CU122				
CU0407	CISPIIL					
PU0651	DELTSAVE	CU121	00275	00574	00575	
CU0007	DELTVAL	CU120	00274			
CU0310	DELYT	CU283	00264			
CU0002	DESIG	CU233	00234			
PU0001	DICT.	CU104	00131	00172	00203	
		CU000	00442	00463	00551	
CU0034	DISTDF					
CU0035	DISTDG					
CU0000	DNARMAY					
CU0009	DPMN	CU366	00366	00422	00422	
CU0047	DPROFIT					
CU0004	OVRMN					
PU0640	ENDING.	CU105	00605	00613	00636	
CU0016	EVENTAPE					
PU0000	EXIT.	CU661				
CU0370	EXPASH					
CU0020	FACMIRV					
CU0005	FLAG					
PU0041	FORMAT.					
CU0021	FVAL					
CU0001	G					
PU0204	GG00000.	CU143	00143	00147	00147	
CU0014	H	CU216	00227	00227	00315	
CU0017	IADD	CU426	00426	00451	00452	
CU1750	IALERT					
CU0013	IBCD					
CU0740	ICLASS	CU221	00222			
CU0030	ICLASSR					
CU0001	IDENTAC					
CU0007	IDPMN	CU320	00320	00332	00333	
CU0005	IDVMA					
PU0112	IF00001.					
PU0224	IF00002					
CU0114	IFIXREG					

CU0115 IFIXEND						
CU0112 IFIXTAPE						
CU0000 IFIXTEMP						
CU0000 IFIXTGT						
CU0011 IFW	00146	00533	00534	00562	00562	00562
CU0055 IG	00142	00625	00626			
CU0347 IGC	00107	00355	00473	00540		
PU0003 IGTTRY	00412	00465	00472	00535	00537	
CU0652 IGTTRY						
CU1625 IGX						
CU0027 INCLASS						
CU0000 INDATE						
CU0051 INEGT						
CU0031 INTYPE						
CU0154 ILAW						
CU0014 INATCH						
CU0001 INACTIVE	00166	00212	00212			
CU0007 INCOMP						
CU0002 INDATE	00200	00231	00231			
CU0001 INDEXAC						
CU0033 INDYPEN						
CU0003 INFORM						
CU0000 INIDENT						
PU0636 INITIAL	00105					
CU0006 INLENGTH						
CU0001 INRUNAC						
CU0004 INSECR						
CU0005 INTIME						
CU0405 ICP						
CU0406 IOPS						
CU1750 IOTHER						
CU2570 IPAY						
CU1440 IPENCODE						
PU0653 IPPOINT	00416	00521	00522	00530	00531	
CU0003 IPPMX	00327	00340	00340	00451		
CU0001 IPVPMX	00314	00315	00350	00351		
CU1320 IRECMODE						
CU2570 IREFUEL						
CU1130 IREG	00230	00230	00232	00234	00235	
CU0107 IS	00245	00252				
CU0002 ISIDE						
CU11616 ISTARAY						
CU0001 ISTCKE						
PU0654 ISTOREX	00536	00540	00542			
CU0053 ITGT	00201	00241				
CU0050 ITIME	00240					
CU0002 ITMPMSL	000002	00246				
CU0000 ITP	00247	00247				
CU0000 ITWCRD						
CU1440 ITYPE	00217	00217				
CU0012 IVERIFY	00107	00110				
PU0331 .10	00327	00407	00410			
PU0270 .123	00206					

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P00141 .124	U0137	U0140	
P00145 .125	U0144		
P00150 .126	U0273	U0304	U0305
P00306 .127			
P00120 .128	U0116	U0117	
P00274 .129	U0305		
P00132 .130	U0155		
P00156 .131	U0154	U0155	
P00161 .132			
P00265 .133	U0111	U0114	
P00115 .12			
P00361 .29	U0571		
P00276 .3	U0325	U0405	
P00347 .30			
P00364 .31	U0401		
P00366 .32	U0370		
P00372 .33			
P00377 .34			
P00401 .35	U037C	U0371	
P00402 .36	U0404	U0404	
P00406 .37			
P00310 .4	U0215	U0223	U0226
P00260 .443			
P00170 .444	U0167		
P00207 .445	U0214	U0215	
P00216 .447			
P00227 .448			
P00253 .449	U0363	U0363	
P00411 .46	U043C		
P00417 .47	U0443	U0474	
P00422 .48	U0466		
P00426 .49			
P00313 .5	U0424	U0563	
P00431 .51			
P00441 .52			
P00443 .53	U0424	U0425	
P00444 .54	U0552		
P00447 .55			
P00462 .56			
P00467 .57	U0446	U0446	
P00475 .58			
P00457 .59			
P00320 .6	U0517		
P00521 .62			
P00526 .63	U0541		
P00500 .64	U0476		
P00502 .65			
P00504 .66	U0513	U0513	
P00515 .67	U0524	U0525	
P00531 .69			
P00322 .7			
P00537 .71	U0541		
P00542 .72			
P00545 .73			

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STAL					

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[illegible]

1675

C00030	NBLN	00007	00010				
C00010	NBNDRY						
C00022	NCLASS						
C00020	NCNTRY						
C00021	NCOMPLEX						
C00004	NCORR						
C00025	NCORTYPE						
C00005	NDPEN						
C00106	NFIXWPS	00253	00254				
C00013	NG						
C00013	NGROUP						
C00020	NK						
C00014	NLFTAR						
F00051	NMULT	00124	00250				
P00062	NK	00164	00265				
P00063	NNEP	00152	00162	00266			
C00000	ACPRINT						
C00023	ACTHER						
C00005	NPASS						
C00015	NPAYLOAD	00136	00213	00213			
C00005	NRECOVER						
C00007	NREF						
C00011	NREG						
C00004	NRECOVER	00413	00553	00554			
C00002	NSTORE	00421	00437	00471	00472	00473	00543
C00020	NSTORER						
C00020	NSTORER						
P00066	NTANKBAS	00133	00161	00163	00271		
C00024	NTGTS	00356	00350	00454	00454	00504	00564
C00013	NTGA	00357	00455				
C00014	NTGMAX						
C00014	NTOTBASE	00420	00430	00467	00470	00501	00515
P00007	NTOTBASE						
C00012	NTYPE	00263	00361	00361	00406	00414	00415
C00054	NUM	00504	00504	00516	00516	00524	00555
C00052	NUMFIX	00625	00115	00132	00132	00204	00205
C00010	NUMMAX	00115	00362	00460	00460	00457	00475
C00030	NUMO	00021	00021			00620	00624
C00011	NW	00306	00307	00333	00376	00303	00526
C00017	NWHDTYPE					00561	00561
C00000	NWPN						
C00044	PAYOFF						
C00007	PEN						
C10060	PEX						
C12755	PEX						
C00017	PLANTAPE						
C00002	PPM	00310	00322	00322	00322		
C00006	PPM						
C00000	PROFIT						
C00003	PROGRESS	00112	00112				
C00000	PVRMA	00402	00402	00444	00444		
C00004	Q1003100	00511					

POINTS	STALL	ED	0	PAGE NO.	15
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Slack

STALL

[illegible]

DATE	STALL	ED	0	PAGE NO.	16
CU0151	VTO				
CU0020	VTEF				
CU0016	VTMAX				
CU0015	VTMIN				
CU0012	VTC				
CU0131	VTCA				
CU0000	VTP				
CU0021	VIZC				
X00006	WAD				
CU0002	WADOP				
CU0310	WLAT				
CU0020	WLONG				
CU0000	WPNTGT				
X00007	WRARRAY				
CU0050	WTEST				
P00136	WS00001				
P00165	WS00002				
P00244	WS00003				
P00537	WS00004				
C10776	XMUP				
CU0310	YIELD				
CU0320	SYMBOLS				
CU0001	00601				
CU0002	00602				
CU0130	00600				
CU0076	00616				
CU0125	00126				
CU0343	00347				
CU0572	00573				
CU0320	00320				
CU0301	00301				
CU0631	00631				
CU0150	00150				
CU0372	00372				
CU0607	00607				
CU0336	00336				
CU0344	00344				
CU0377	00377				
CU0441	00441				
CU0462	00462				
CU0313	00313				
CU0314	00314				
CU0432	00432				
CU0431	00431				
CU0624	00624				
CU0276	00276				
CU0373	00373				
CU0623	00623				
CU0272	00272				
CU0267	00267				
CU0257	00257				
CU0544	00544				

```

C      FUNCTION TABLEUP(S)
C      TABLEUP  IJUN71
C      *****
C      THIS FUNCTION COMPUTES THE VALUE OF MUP AS A FUNCTION OF THE
C      SINGLE SHOT SURVIVAL PROBABILITY, S.  IT USES A TABLE LOOKUP IN
C      COMMON /TABLE/ FOR THE SQUAREROOT DAMAGE LAW.
C      *****
CUSE  TABLE  IJUN71 *****
C      COMMON /TABLE/ TABLE(IJUN71)
C      TABLE *****
C      MAUNPA  IJUN71 *****
C      *****
C      USED BY MULCON, PREMIUMS, MAD, MADOUT, PMTINC, RESVAL, DEFALOC,
C      STALL, FMP, SUMTSM, TABLEUP, MDALCQ
C      *****
C      COMMON /MADPA/ JGTI, INACTIVE(200), TGA(200),
C      1  TVALTGA(200), VTGA(200,2), MUP(200,2), KISK(6,200,2),
C      2  SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAW,
C      3  MISDEP, MGRH(200), PEXI(200), AMUP(200,2), JGTIX, LNEXT,
C      4  MINKILX, MAXKILX, MAXCOSX, MISUEX, NACTV, IGI(200), TGA(200),
C      5  MORRAT(200), PEXI(200), STRX(200,2), LSTMAX
C      *****
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSX
C      *****
C      DIMENSION STARMAY(150), ISTARAY(1607)
C      EQUIVALENCE (STARAY, ISTARAY, JGTIX)
C      *****
C      DATA (LSTMAX = 1607)
C      *****
C      MAUNPA *****
C      *****
C      IF (ILAW) 1, 1, 2
C      *****
C      1 TABLEUP = -LOGF(S)
C      RETURN
C      *****
C      2 I = X = S * LOGU. + 1.
C      H = X - I
C      Y = TABLE(I) + (H * (TABLE(I+1) - TABLE(I)))
C      TABLEUP = Y * Y
C      RETURN
C      END

```

POINTS TABLEMUP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

TABLEMUP

TABLE
WADUPM

EXTERNAL SYMBOLS

Q1W1C10C
Q1W1J100
QWJ01C1.
L50F

IDENT

00102
00003

01751
14726

TABLEMUP

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PAGE NO.

2

DATA TABLE

P00037	REGIN.	00055	00064	00070	00043	00037	00040	00041	00041
P00001	DICT.	00005	00014	00042	00043	00037	00040	00041	00041
P00056	ENDING.	00006	00016	00035	00043	00037	00040	00041	00041
P00000	EXIT.	00002	00051	00052	00051	00051	00052	00052	00052
P00012	PRODOC1.	00053	00054	00054	00054	00054	00054	00054	00054
P00017	PRODOC2.	00044	00047	00047	00047	00047	00047	00047	00047
P00073	SETPL.	00023	00026	00027	00026	00026	00026	00026	00026
P00070	I	00007	00007	00007	00007	00007	00007	00007	00007
C10025	IGA	00006	00006	00006	00006	00006	00006	00006	00006
C10154	ILA	00010	00011	00011	00010	00010	00011	00011	00011
C00001	INACTIVE	00003	00003	00003	00003	00003	00003	00003	00003
P00037	INITIAL.	00006	00006	00006	00006	00006	00006	00006	00006
C10016	ISTANAY	00010	00011	00011	00010	00010	00011	00011	00011
P00012	.1	00003	00003	00003	00003	00003	00003	00003	00003
P00017	.2	00003	00003	00003	00003	00003	00003	00003	00003
C00000	JTGT	00003	00003	00003	00003	00003	00003	00003	00003
C10016	JGTG	00003	00003	00003	00003	00003	00003	00003	00003
C10017	LNEXT	00003	00003	00003	00003	00003	00003	00003	00003
A00004	LOGF	00003	00003	00003	00003	00003	00003	00003	00003
C14725	LSIMAX	00003	00003	00003	00003	00003	00003	00003	00003
C10153	PAXCOSY	00003	00003	00003	00003	00003	00003	00003	00003
C10122	MAXCOSX	00003	00003	00003	00003	00003	00003	00003	00003
C10152	MAXKILL	00003	00003	00003	00003	00003	00003	00003	00003
C10021	MAXKILX	00003	00003	00003	00003	00003	00003	00003	00003
C10151	MINKILL	00003	00003	00003	00003	00003	00003	00003	00003
C10020	MINKILX	00003	00003	00003	00003	00003	00003	00003	00003
C10155	MISDEF	00003	00003	00003	00003	00003	00003	00003	00003
C10023	MISDEX	00003	00003	00003	00003	00003	00003	00003	00003
C10150	MORR	00003	00003	00003	00003	00003	00003	00003	00003
C12445	MORRX	00003	00003	00003	00003	00003	00003	00003	00003
C01751	MUP	00003	00003	00003	00003	00003	00003	00003	00003
C10024	NACTV	00003	00003	00003	00003	00003	00003	00003	00003
C10466	PEX	00003	00003	00003	00003	00003	00003	00003	00003
C12755	PEXX	00003	00003	00003	00003	00003	00003	00003	00003
P00055	PF000C2.	00003	00003	00003	00003	00003	00003	00003	00003
X00002	Q100310V	00003	00003	00003	00003	00003	00003	00003	00003
X00001	Q101010V	00003	00003	00003	00003	00003	00003	00003	00003
X00003	QB001C1.	00003	00003	00003	00003	00003	00003	00003	00003
P00077	H	00003	00003	00003	00003	00003	00003	00003	00003
C02071	KISK	00003	00003	00003	00003	00003	00003	00003	00003
P00003	S	00003	00003	00003	00003	00003	00003	00003	00003
C07031	SSIG	00003	00003	00003	00003	00003	00003	00003	00003
C10100	STARAY	00003	00003	00003	00003	00003	00003	00003	00003
C14105	STK2X	00003	00003	00003	00003	00003	00003	00003	00003
C13205	SIXX	00003	00003	00003	00003	00003	00003	00003	00003
C00000	TABLE	00003	00003	00003	00003	00003	00003	00003	00003
P00003	TABLEMUP	00003	00003	00003	00003	00003	00003	00003	00003
C00011	TCA	00003	00003	00003	00003	00003	00003	00003	00003
C12135	TGAX	00003	00003	00003	00003	00003	00003	00003	00003
C00021	TVALTCA	00003	00003	00003	00003	00003	00003	00003	00003
P00030	VALUE.	00003	00003	00003	00003	00003	00003	00003	00003
C01131	VTCA	00003	00003	00003	00003	00003	00003	00003	00003
P00100	X	00003	00003	00003	00003	00003	00003	00003	00003

3-15 TABLEMUP

CLC770 XKUP

PJ0101 Y

00070 SYMBCLS

00034

00034

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ED

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FT-5.5

```

SUBROUTINE TIMEPRT
  CSUBR   TIMEPRT  1JUN71
  C
  C      THIS SUBROUTINE PRINTS THE TIMING INFORMATION FOR
  C      THE OPTIONS WHICH PRECEDE WEAPON ALLOCATION
  C
  CALL TIMEPRT(-2)
  PRINT 101
  101 FORMAT('TIMING INFORMATION FOR PREVIOUS OPTIONS',//* INITIALIZE
  21*)
  CALL TIMEPRT(-3)
  CALL TIMEPRT(0)
  RETURN
  END
  1000
  67000
  2000
  3000
  4000
  5000
  6000
  7000
  8000
  9000
  10000
  11000
  12000
  13000
  14000

```

5. TS TIMEPRT

PROGRAM LENGTH
ENTRY POINTS TIMEPRT
EXTERNAL SYMBOLS
THEND.
QBQDICT.
TIMEWE
STN.

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ED 0

PAGE NO.

2

IDENT TIMEPRT

U0062
U0030

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S.ATS TIMEPRT

PU0056 BEGIN.
 PU0003 CRFMT.
 PU0001 DICT.
 PU0057 ENDING.
 PU0000 EXIT.
 PU0003 FORMAT.
 PU0046 GG0000G.
 PU0056 INITIAL.
 PU0060 .ERASER.
 PU0003 ..101
 XU0002 Q8QDICT.
 XU0004 STM.
 XU0001 THEND.
 XU0003 TIMEPE
 PU0030 TIMEPRT
 00017 SYMBCLS

00036 00042 00045 00050 00053
 00055
 00037 00046 00051
 00031
 00047 00052

1686

```

SUBROUTINE *AD
  CSUMR      MAD      LJUN71      *****
  C          (VERSION *AD 2)
  CUSE       MASTER   LJUN71      *****
  C          USED BY ALLOCATE, MULCON, PREMIUMS, STALL, *AD, *MADOUT, PRINTNCH,
  C          RESVAL, AND DEFALCC
  C
  COMMON/MASTER/INDATE, IDENING, ISIDE, NRTPT, NCORR, NUPEN, NRECOVER
  1, NREF, NRENDAY, NREG, NITYPE, NGROUP, NITCBASE, NPAVLGAU, NASHITYPE, NHDTYPE
  2, NITANKGAS, NCOMPLEX, NCLASS, NALERT, NITGTS, NCORTYPE, NCNTRY
  ECU, VALENCE(INGROUP, N) (NALERT, NOTHER)
  MASTER
  CENDU      CONTROL  LJUN71      *****
  CUSE       CONTROL  LJUN71      *****
  C          USED BY MULCON, PREMIUMS, STALL, *MAD, *MADOUT, PRINTNCH, DEFALCC,
  C          AND PRINTCON
  C
  COMMON/CONTROL/STALADJ, CLOSE, *MADOP, *PROGRESS, QUALITY, NPASS, PRM, *DELTY
  VAL, CORR, STIME, *VERIFY, *CORR2, *IMATCH
  1, *PINDAHAG, LAW(2), *PALMINV, TARFAC
  TYPE INTEGER *MADOP
  TYPE REAL *MINDAHAG
  CENDU      CONTROL  *****
  CUSE       DYNAMIC  LJUN71      *****
  C          USED BY MULCON, PREMIUMS, STALL, *MAD, *MADOUT, PRINTNCH, RESVAL,
  C          DEFALCC, AND PRINTCON
  C
  COMMON/DYNAMIC/IGTNAME, INDEXAQ, DESIG, TASK, CNTRYLOC, FLAG, TGTMULT,
  ITGLAT, TGTLONG, TGTTRAU, VTD, *MOM(2), *VG(2), *NK, FVAL(3), *TAU(3), *THCLASS,
  2 ICLASS, *IHTYPE, *TRDEF, INDPEN, DISTOP, *DISTDGNBLN, CTMULT, *VT,
  3 TGTW(13), *PAYOFF, *COST, *PROFIT, *DPROFIT, *WRTST, *IHECT, *NUMPIX,
  4 ITGTNUM, *IG(30), *KORH(30), *RVAL(30), *PEN(30), *TCARR(30), *LDN
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1      WIFC(3),WTRATE(3),WTSUM(3),WATTRIB(6,200),WWSUM(310,3)
2      WALEXREST(310,3),LA(310),MAXATTRIB
      TYPE REAL LA
      CENSU      NUMB2 *****
      CUSE      PAYOFF LJUN71 *****
      C          USED BY WAD AND PRINTNG *****
      C
      COMMON/PAYOFF/
      1      OP=CF11,SPAYOFF,SUMCOST,SPROFIT,SUMPREM,
      1      L,NAT
      CENSU      PAYOFF *****
      CUSE      PRINEED LJUN71 *****
      C          USED BY STALL, WAD, AND PRINTNG *****
      C
      COMMON/PRINEED/N*G
      TYPE INTEGER G
      CENSU      PRINEED *****
      CUSE      NUMB3 LJUN71 *****
      C          USED BY WAD AND PRINTNG *****
      C
      COMMON/333/
      1      WMP(101,VAL(101),V(11,2),MU(10,2),SIG(10,2),
      1      S(1,2),VS(10,2),VSN(11,2),ITCA(200),ADDTCA(200),
      2      SIG(200,10,2),SIG(30,10,2),DSIG(200,2)
      TYPE REAL MU
      CENSU      NUMB3 *****
      CUSE      WADOUT LJUN71 *****
      C          USED BY STALL, WAD, WADOUT, AND PRINTNG *****
      C
      COMMON/WADOUT/
      1      PVMAX,IPVMAX,PPMAX,IPPMX,DVPMX,IUVPMX,DPMX,IOPMX,NUMMAX,Nu
      1      TPMAX,ITCA,NTCA,MAXX,VTMIN,VTMAX,ALPHA,VTEF,VTZO
      CENSU      WADOUT *****
      CUSE      WADFINAL LJUN71 *****
      C          USED BY STALL, WAD, WADOUT, AND PRINTNG *****
      C
      COMMON/WADFINAL/
      1      VIP(200),DELVI(30),NUMG,IGC(30),ICP,ICPS,CTSPILL
      CENSU      WADFINAL *****
      CUSE      WADAPN LJUN71 *****
      C          USED BY MULCON, PREMIUMS, WAD, WADOUT, PRINTNG, RESVAL, DEFALOC,
      C          STALL, FMUP, SUMTSH, TABLEUP, MDALCRU
      C
      COMMON/WADAPN/ JTGT, INACTIVE(200), TCA(200),
      1      TVALICA(200), VTGA(200,2), MUP(200,2), RISK(6,200,2),
      2      SSIG(20,2), MINKILL, MAXKILL, MAXCOST, ILA,
      3      MISDEF, MGR(200), PEX(200), XMUP(200,2), JIGIX, LNEXT,
      4      MINKILA, MAXKILA, MAXCOSA, MISDEX, NACTV, IGX(200), TCA(200),
      5      MGRX(200), PEX(200), STKX(200,2), STKX(200,2), LSTMAX
      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
      TYPE REAL MINKILA, MAXKILA, MAXCOSA
      C
      DIMENSION STANAY(1607), ISTANAY(1607)

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C      CALL SPLIT
      IF((CTMULTI.GT.SURP).AND.(SURP.GT.1.))9J7.7
9J7 ISURP=SURP
      CNGMULTI=CTMULTI-ISURP
      CTSPILL=CTSPILL+CNGMULT
      CIMULT=ISURP
      UC 911 NWZ=1,NUMC
      GZ=IGC(NWZ)
911 SURPWP(GZ)=SURPWP(GZ)+CNGMULT
      DC 908 NWZ = 1,NUM
      GZ = IG(NWZ)
908 SURPWP(GZ)=SURPWP(GZ)+CNGMULT
      DC 930 GZ = 1,NW
930 CALL PREMIUMS(GZ)
C      7 SURPWP(G)=SURPWP(G)+CIMULT
      CALL PREMIUMS(G)
      ASSIGN 8 TO LVCALDSG
      GC TO 100
      8 GC TO 200
      CALL ADDSIG AND ADDIND
      10 ASSIGN 12 TO LVCAL
      GC TO 400
      CALL CALPAY,CALPOT,CALDEL
C      12 CALL WADOUT
      DELVT(NUM) = VTD(NUM) - V1
      PAYOFF=VIC-V1
      USE PAYOFF CORRECTED FOR MAXKILL(VTEF) AND MINKILL(ALPHA)
      PROFIT=PAYOFF-COST
      TBENEFIT=(VIC-VTEF)+ALPHA-COST-SUMPREM
      IF(TBENEFIT.GT.0)14.16
      14 TBMX=TBENEFIT+PPMX
      16 CONTINUE
      CALL PRINTALL(20)
      RETURN
C      *****
C      DELETE MPN CONTROL
C      *****
      18 G=1G(NW)
      ICP=ICP+1
      COST=COST-LAMEF(G)
      SUMPREM=SUMPREM+UPREMIUM(G)
      IF(PPROGRESS.EQ.1.0) 21.19
      21 SURP=SURPWP(G)*.5
C      CALL SPLIT
      IF((CTMULTI.GT.SURP).AND.(SURP.GT.1.))9J9.19
9J9 ISURP=SURP
      CNGMULTI=CTMULTI-ISURP
      CTSPILL=CTSPILL+CNGMULT
      CIMULT=ISURP
      UC 912 NWZ=1,NUMC
      GZ=IGC(NWZ)
912 SURPWP(GZ)=SURPWP(GZ)+CNGMULT

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      UC 910 ANZ = 1.0UM
      GZ = IG(NMZ)
      910 SURPWP(GZ)=SURPWP(GZ)*CNGMULT
      UC 920 GZ = 1.0UM
      920 CALL PREMIUMS(GZ)
C
      19 SURPWP(G)=SURPWP(G)*C1MULT
      CALL PREMIUMS(G)
      ASSIGN 20 TO LVICALUSG
      GO TO 100
      20 GO TO 300
C
      CALL SUBSIG AND SUBINW
      22 ASSIGN 24 TO LVICAL
      GO TO 400
C
      CALL CALPAY,CALPOT,AND CALDEL
      24 GO TO 12
C
      *****
      ERROR PRINT IF PROGRAM LOOPS -- NEG FOR BAD WAD CALL
      *****
C
      40 LOOP=LOOP-100
      41 PRINT 42 * LOOP
      42 FORMAT ( 6H LOOP= ,I4 )
      43 RETURN
C
      *****
      LOCAL ROUTINE INITIALIZE OF WAD2
      *****
C
      50 CONTINUE
      51 NOME=0
      52 NTCAP=0
      NTCAP1=1
      NTCAP2=2
      NWP(1)=C
      VAL(1)=VTC
      DO 54 JH=1,M
      MU(1,JH)=0.0
      SIG(1,JH)=0.0
      V(1,JH)=VC(JH)
      V(2,JH)=0.0
      S(1,JH)=1.0
      VS(1,JH)=0.0
      VSN(1,JH)=0.0
      54 VSN(2,JH)=VC(JH)
      VT=VTZ0+VTC
      CALL PRNTALL(12)
      DO 5- JGD = 1,NG
      IF (INACTIVE(IGJ).GT.1.0) 545,55
      545 IF (INACTIVE(IGJ).LT.3.0) 57,55
      55 JG = IGC
      INACTIVE(JG)=0
      ITC1 JG=2
      IACTSA(JG)=1
      VTP(JG)=0.
      CALL PREMIUMS(JG)

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UC 50 JJJ=1,M
SIG(JJ,I,JJ)=V
VIP(JJ)=VIP(JJ)+% (JJ) = VICA(JJ,JJ) * (1. - FMUP(MUP(JJ,JJ)))
30 CONTINUE
57 CONTINUE
GO TO 2

C *****
C LOCAL SUBROUTINE CALSG OF MAD2
C (CALCULATES INTERACTION ON TERM OF EACH PCT MPN WITH GROUP
C 5)
C *****
100 K4=6
DC 108 I4=1,M
IF (INACTIVE(I4)) I4=101
1.1 DC 106 J4=1,M
GAP=0.0
DC 104 IAT=1,NAT
IF (JATRI(IAT,I4)) .EQ. JATRI(IAT,KG4)) I4=104
1.2 J4=K4+MINI(RISK(IAT,I4,J4),RISK(IAT,KG4,J4))
1.4 CONTINUE
1.6 DSIG(I4,J4)=*****MINI(SSIG(I4,J4),SSIG(KG4,J4)) * 2.0 * CORR
1.8 CONTINUE
GO TO LVCALUS6

C *****
C LOCAL SUBROUTINE ADDSIG OF MAD2
C (MODIFIES ALL SIG+SIGP AND SIGD FROM GROUP G)
C *****
200 KG=6
IADDICAK=IADUICAK(KG3)
IICAK=IICAK(KG3)
***** UPDATE ACTUAL
NUP=IICAK
2.2 NUP=NRU-1
NAT=NKD+IADUICAK
NUP=IICAK+1
IF (NAT) .LT. IICAK) 2.2=2.4
2.4 DC 206 J3=1,M
V(NAT,J3)=V(NKD,J3)
AL(NAT,J3)=AL(NKD,J3)+UP(KG3,J3)
SIG(NAT,J3)=SIG(NKD,J3)+SIG(KG3,NRU,J3)
***** ADD NEW DELETED
2.6 SIGD(NUP,I,NAT,J3)=SIGP(KG3,NKD,J3)
I4=IUMPI)=KG3
VAL(NAT)=VAL(NKD)
NAP(NAT)=NAP(NKD)
***** UPDATE DELETED
DC 212 N43=1,M
IG3=SIG(N43)
IF (N43) .LT. IICAK(I4)) IADUICAK(I43)=212+208
2.8 DC 210 J33=1,M
210 SIGD(N43,NAT,J33)=SIGD(N43,NKD,J33)-DSIG(I43,J33)
212 CONTINUE
214 J4=1
*****
CSUCH
C *****

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DC 226 IGD = LONG
IF (INACTIVE(IGD)/226) 221
221 I(33)=IGD
222 IF (NRD .LT. ITC(1333))=IADDTCA(I333) 226,222
223 DC 224 J333=1,M
224 SIGP(I333,NRDT,J333)=SIGP(I333,NRDT,J333)+OSIG(I333,J333)
226 CONTINUE
GC TO 202
232 CONTINUE
C *****
C LOCAL SUBROUTINE ADDIND OF #AU2
C UPDATES INDEXES FOR ADDITION OF WEAPON FROM GROUP G)
C *****
250 K95=6
IADDTCAK=IADDTCA(K95)
IF (IADDTCAK .EQ. C) 2/0,252
252 ITCAK=ITCA(K95)
IVALTCAK=IVALTC(A(K95))
DC 258 IGS=1,N9
IF (INACTIVE(IGS)) 258,253
253 IF (ITCA(IGS) .EQ. ITCAK) 260,254
254 IF (ITCA(IGS) .GT. ITCAK) 256,258
256 ITC(IGS)=ITCA(IGS)+1
258 CONTINUE
GC TO 2/0
260 IF (IADDTCA(IGS) .EQ. U) 256,262
262 IF (IVALTC(IGS)/IVALTCAK .LT. 1-DELTVL) 256,264
264 IF (IVALTC(IGS)/IVALTCAK .GT. 1-DELTVL) 258,266
266 IADDTCA(IGS)=U
268 GC TO 258
270 NUM=N9+1
NITCA=NITCA+IADDTCAK
NITCAP=NITCA+1
NITCAP2=NITCA+2
IF (IADDTCAK .EQ. 1) 2/2,276
272 VAL(ITCAK)=IVALTCAK
DC 274 JH=1,M
V(ITCAK,JH)=VITCA(K95,JH)
274 V(NITCAP2,JH)=U,C
NAP(ITCAK)=U
276 NAP(ITCAK)=NAP(ITCAK)+1
GC TO 1C
C *****
C LOCAL SUBROUTINE SUBSIG OF #AU2
C (MODIFIES ALL SIG,SIGP,AND SIGD FOR DELETION OF N(M WEAPON)
C *****
300 N44=N9
K94=IG(N44)
ITCAK=ITCA(K94)
ISUBTCAR=C
IF (NAP(ITCAK) .EQ. 1) 302,304
302 ISUBTCAR=1
304 DC 318 NR44=ITCAK,NITCAP1

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NRT4=NRD4-ISUBTCAK
IF (NRT4 .LT. ITCAR) 1306,305
305 CONTINUE
DC 306 J441,M
C***** UPDATE ACTUAL
V(NRT4,J44)=V(NRD4,J44)
MU(NRT4,J44)=MU(NRD4,J44)=MUP(KG4,J44)
SIG(NRT4,J44)=SIG(NRD4,J44)=SIG(NM4,NRD4,J44)
306 VAL(NRT4)=VAL(NRD4)
NRP(NRT4)=NRP(NRD4)
C***** UPDATE POTENTIAL
DC 312 IG0 = 1,M
IF (INACTIVE(IG0)) 312,307
307 104=IG0
IF (NRD4 .LT. ITCAR)=IADTCA(IG0) 312,308
308 DC 310 J441,M
310 SIG(IG4,NRT4,J44)=SIG(IU4,NRD4,J44)=DSIG(IG4,J44)
312 CONTINUE
C***** UPDATE DELETED
DC 317 NM441,M
IG44=IG(NM44)
IF (NRD4 .LT. ITCAR)=IADDTCA(IG44) 317,314
314 DC 316 J441,M
316 SIG(NM44,NRT4,J44)=SIG(NM44,NRD4,J44)=DSIG(IG44,J44)
317 CONTINUE
62 TO 318
C** UPDATE POTENTIAL (PMSERVE LCST TCA)
1306 DC 1312 IG41,M
IF (INACTIVE(IG4)) 1312,1307
1307 IF (ITCAR(IG4) .EQ. ITCAR) 1308,1312
1308 DC 1310 J441,M
SIG(IG4,NRT4,J44)=SIG(IU4,NRD4,J44)=DSIG(IG4,J44)
1310 CONTINUE
1312 CONTINUE
C**
DC 1317 NM441,M
IG44=IG(NM44)
IF (ITCAR(IG44) .EQ. ITCAR) 1314,1317
1314 DC 1316 J441,M
SIG(NM44,NRT4,J44)=SIG(NM44,NRD4,J44)=DSIG(IG44,J44)
1316 CONTINUE
1317 CONTINUE
318 CONTINUE
NUM1=NUM-1
C***** SPACE BACK DELETED
DC 322 NM441,M
IG(NM44)=IG(NM44+1)
DELVT(NM44) = DELVT(NM44 + 1)
NTCAF=NTCAPI-ISUBTCAK
DC 321 NM41,M
DC 320 J441,M
320 SIG(NM44,NRT4,J44)=SIG(NM44,NRD4,J44)
321 CONTINUE
322 CONTINUE
C

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C *****
C LOCAL SUBROUTINE SUBIND OF MAU2
C (UPDATES INDEXES FOR DELETION OF NWITH MPN)
C *****
350 IF (ISUBTCAK.EQ.1) 352,361
352 DC 360 IGT=1,NG
   IF (INACTIVE(IGT)) 360,353
353 IF (ITCA(IGT).EQ.ITCAK) 354,356
354 IADDTCA(IGT)=1
   GO TO 360
356 IF (ITCA(IGT).GT.11000) 358,360
358 ITCA(IGT)=ITCA(IGT)-1
360 CONTINUE
361 NUMNUM=1
   NITCA=NITCA-ISUBTCAK
   NITCAP=NITCA+1
   NITCAP2=NITCA+2
   IF (ISUBTCAK.EQ.C) 362,364
362 N=PI(ITCAK)=N+PI(ITCAK)-1
   GO TO 22
364 VAL(NITCAP2)=0.0
   DC 366 JJJJ=1,M
366 V(NITCAP2,JJJJ)=0.0
   GO TO 22

C *****
C LOCAL SUBROUTINE CALPAY OF MAU2
C *****
400 VT=0.0
   VTZ=0.0
   DC 406 J=1,M
   DC 405 A=1,NITCAP1
   XMU=XMU(N,J)
   IF (XMU.EQ.0.) 402,403
402 S(N,J)=1.0
   GO TO 404
403 CONTINUE
   S(N,J)=FMUP(XMU+XMU/(XMU+SIG(N,J)))
404 CONTINUE
   VS(N,J)=(V(N,J)-V(N+1,J))*S(N,J)
405 VSN(N+1,J)=VSN(N,J)+VS(N,J)
   SC=FMUP(XMU)
   VTZ=VC(J)*SC+VTZ
406 VT=VT+VSN(NITCAP2,J)
   CALL PHNTALL(12)

C *****
C LOCAL SUBROUTINE CALPOT OF MAU2
C *****
   CALL PHNTALL(14)
501 DC 512 IGD=1,NG
   IF (INACTIVE(IGD)) 512,502
502 IGI=IGD
   VIP(IGI)=0.0
   DC 510 JI=1,M
   XMU1=FMUP(IGI,J1)

```

```

      N1=ITCA(I01)
      IF(IADDTCA(I01))503,504
503 N1=N1-1
      C=====
      CALC REVISED      VSN(N1+1,J1) FOR PRECEDING MPN
      VSN1=VSN(N1,J1)+(V(N1,J1)-VTCA(I01,J1))*S(N1,J1)
      CALC VS AND VSN FOR PCT MPN
      XMU=MU(N1,J1)*MUPI
      S1 = FMUP(XMU * AMU / (SIGP(I01,N1,J1) + SIG(N1,J1) * XMU))
      VSN1=VSN1+S1*(VTCA(I01,J1)-V(N1+1,J1))
      C  CALL PRNTALL(15)
      N1=N1+1
      GO TO 500
504      VSN1=VSN(N1,J1)
506      N1=N1+1
      C  CALC REVISED S FOR CONCURRENT AND SUCCEEDING MPNS
      DC 500 N1=NSTART+NTCAP1
      XMU=MU(N1,J1)*MUPI
      S1 = FMUP(XMU * AMU / (SIGP(I01,N1,J1) + SIG(N1,J1) * XMU))
      VSN1=VSN1+S1*(V(N1,J1)-V(N1+1,J1))
      C  CALL PRNTALL(15)
      CONTINUE
510      VTP(I01)=VTP(I01)+VSN1
512      CONTINUE
      C  *****
      C  LOCAL SUBROUTINE CALUEL OF MAD2
      CALL PRNTALL(17)
502      DC 612 N2=1,NUM
      VTD(N2)=0.0
      IG2=IG(N2)
      DC 610 J2=1,M
      N1=ITCA(IG2)
      VSN1=VSN(N1,J2)
      IF(N1P(N1,J2)*EQ.1160)*606
      CORRECT VS AND VSN FOR PREVIOUS MPN
504      N2=N1+1
      N1=N1+1
      S1=S(N2,J2)
      VSN1=VSN(N2,J2)+S(N2,J2)*(V(N2,J2)-V(N2+2,J2))
      C  CALL PRNTALL(16)
      C=====
      CORRECT CONCURRENT AND SUCCEEDING TCA SETS
506      MUPI=MUP(IG2,J2)
      DC 608 N2=NSTART+NTCAP1
      XMU=MU(N2,J2)*MUPI
      S1 = FMUP(XMU * AMU / (SIG(N2,J2) + SIG(N2,J2) * XMU))
      VSN1=VSN1+S1*(V(N2,J2)-V(N2+1,J2))
      C  CALL PRNTALL(16)
      CONTINUE
510      VTD(N2)=VTD(N2)+VSN1
512      CONTINUE
      GO TO LOCAL
      END

```

S-STS

WAD

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

WAD

MASTER
CONTROL
DYNAMIC
LAMBDA
222
PAYOFF
PRINCE
333
WADOUT
WADFINAL
WADPH
PMTWADG
Q1Q1WAD
Q1Q3100
TEND.
Q1Q1CT.
PMTALL
WADOUT
PREMIUMS
FRUP
MINIF
STR.
QNSINGL.

IDENT

W3452
W0011
W0027
W0022
W0304
V1440
V6464
W0007
W0002
12650
W0022
W0010
14726
W0012

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EXTERNAL SYMBOLS

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CU0133 ALERHEST
CU0117 ALPHA
PU3327 BEGIN.
CU0001 CLOSE
PU3366 CNGMULT
CU0004 CNTRYLOC
PU2163 CNVAT1.
CU0010 CDR
CU0013 CORR2
CU0045 CSST
PU3367 CCUNT.
PU0004 CREMT.
CU0037 CTMULT.
CU0407 CTSPILL
CU0007 DELTVAL
CU0310 DELVT
CU0002 DESIG
PU0001 DICT.
CU0034 DISTOF
CU0035 DISTOG
CU0000 DNARMAY
CU0006 DPMN
CU0130 DPREMIUM
CU0047 DPCFIT
CU2030 DSIG
CU0004 DVMN
PU3334 ENDING.
PU0000 EXIT.
CU0020 FACIRV
CU0005 FLAG
X00010 FMUP
PU0004 FORMAT.
CU0021 FVAL
CU0001 G
PU3370 GAM
PU0025 GGOQCC.
PU2160 GZ
CU0014 H
CU0530 IADDTCA
PU3371 IADDTCAK
PU3372 IAT4
CU0030 ICLASSN
CU0001 IDENTAG
CU0007 IDPMN

CU0046 00243
L3332
CU0140 00163 00200 00321 00323 00344 00361
00422 00633
00042 00043 00106 00111 00111 00241 00244 00267 00267
00272 00272 00156 00172 00173 00336 00337 00353 00354 00445 00447 00532
00534 00603 00762 00764 01020 01022 01143 01145 01275 01277
01332 01334 01366 01370 01421 01423 01464 01465 01507 01510 01555
01556 01577 01600 01765 02111 02113
00425 00124 00135 00135 00150 00216 00304 00305 00316
00123 00316 00331 00377 00377
00141 00143 00143 00322 00324 00324
01103 01111 01112
00236 01451 01451
00013 00025 00031 00063 00206 00221 00232 00256 00367 00402
00417 00424 00521 00541 00615 00630 01617 01633 01653 01657
01737 02031 02127

00046 00243
00142 00163 00200 00321 00323 00344 00361
00422 00633
00042 00043 00106 00111 00111 00241 00244 00267 00267
00272 00272 00156 00172 00173 00336 00337 00353 00354 00445 00447 00532
00534 00603 00762 00764 01020 01022 01143 01145 01275 01277
01332 01334 01366 01370 01421 01423 01464 01465 01507 01510 01555
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00123 00316 00331 00377 00377
00141 00143 00143 00322 00324 00324
01103 01111 01112
00236 01451 01451
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01737 02031 02127

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00272 00272 00156 00172 00173 00336 00337 00353 00354 00445 00447 00532
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01332 01334 01366 01370 01421 01423 01464 01465 01507 01510 01555
01556 01577 01600 01765 02111 02113
00425 00124 00135 00135 00150 00216 00304 00305 00316
00123 00316 00331 00377 00377
00141 00143 00143 00322 00324 00324
01103 01111 01112
00236 01451 01451
00013 00025 00031 00063 00206 00221 00232 00256 00367 00402
00417 00424 00521 00541 00615 00630 01617 01633 01653 01657
01737 02031 02127

00046 00243
00142 00163 00200 00321 00323 00344 00361
00422 00633
00042 00043 00106 00111 00111 00241 00244 00267 00267
00272 00272 00156 00172 00173 00336 00337 00353 00354 00445 00447 00532
00534 00603 00762 00764 01020 01022 01143 01145 01275 01277
01332 01334 01366 01370 01421 01423 01464 01465 01507 01510 01555
01556 01577 01600 01765 02111 02113
00425 00124 00135 00135 00150 00216 00304 00305 00316
00123 00316 00331 00377 00377
00141 00143 00143 00322 00324 00324
01103 01111 01112
00236 01451 01451
00013 00025 00031 00063 00206 00221 00232 00256 00367 00402
00417 00424 00521 00541 00615 00630 01617 01633 01653 01657
01737 02031 02127

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P02222	IN00065.	01235	02350	02403	02541	02557	03276	03115	02602		
P02223	IN00070.	01277	01370	02324	02341	02566	02603	02565			
P02224	IN00071.	01276	01367	02324	02340	02543	02562				
P02225	IN00072.	01278	01367	02325	02343	02564	02600				
P02226	IN00075.	01334	01423	02605	02616	02622	02637	03114			
P02227	IN00076.	01333	01422	02542	02560	02605	02617	02623			
P02230	IN00077.	01333	01422	02621	02635	03141	02702				
P02231	IN00101.	01465	02642	02652	02654	02666					
P02232	IN00104.	01556	02704	02716	03266						
P02233	IN00105.	01577	02720	02734	02741	02753					
P02234	IN00106.	01600	02722	02737	02741	02754					
P02235	IN00110.	01643	02721	02736	03267						
P02236	IN00112.	01700	02716	02760	02777	03234					
P02237	IN00113.	01714	01752	01765	02757	03002	03015				
P02240	IN00114.	01720	01766	02756	02774	03002	03016				
P02241	IN00115.	01727	01766	02761	03000	03003	03020				
P02242	IN00120.	02054	03036	03056	03315	03064	03100				
P02243	IN00122.	02071	02112	03035	03054	03064	03077				
P02244	IN00123.	02074	02111	03037	03057						
P02245	IN00124.	02101	03040	03060	03306						
P02246	IN00125.	02112	03022	03033	03041	03062	03065	03102			
C00001	INACTIVE	00500	00500	00504	00504	00513	00513	00567	01000	01053	
C00001	INACTIVE	01053	01255	01255	01353	01353	01511	01511	01665		
C00001	INDEXAC										
C00033	INDYPEN										
P03330	INITIAL.	00014									
C00005	ICP	00060									
C00006	ICPS		00061	00075	00075	00104	00104	00105	00265	00266	
C00003	IPPMX										
C00001	IPVRMX										
C00002	ISIDE										
C10016	ISTARAY										
P03403	ISUBTCAR	01176	01203	01211	01453	01501	01531	0154C			
P03404	ISURP	00134	00137	00144	00315	00320	00325				
C00053	ITGT										
C00020	ITCA										
P03405	ITCAR	00514	00515	00655	00656	00750	00750	01006	01043	01056	
C00012	IVERIFY	01056	01062	01062	01066	01066	01067	01172	01263	01320	
P00042	.1	01320	01350	01356	01411	01412	01513	01513	01520	01523	
P00227	.10	01524	01704	01704	02051	02051	02051	02051	02051	02051	
P00560	.100	00657	00674	01044	01057	01063	01135	01155	01177	01204	
P00571	.101	01213	01357	01413	01514	01521	01542				
P00011	.102										
P00620	.104										
P00623	.106										
P00541	.108										
P00231	.12	00570									
P01346	.1306	00227									
P01355	.1307	01214									
P01361	.1308										

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 P01464 .320
 P01471 .321
 P01475 .322
 P01501 .350
 P01503 .352
 P01513 .353
 P01516 .354
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 P01523 .358
 P01525 .360
 P01526 .361
 P01542 .362
 P01546 .364
 P01557 .366
 P00413 .40
 P00065 .4
 P01563 .400
 P01605 .402
 P01610 .403
 P01622 .404
 P01625 .405
 P01642 .406
 P00415 .41
 P00074 .410
 P00425 .43
 P00426 .50
 P00034 .5
 P01662 .501
 P01667 .502
 P01711 .503
 P01752 .504
 P01755 .506
 P02012 .508
 P00426 .51
 P02015 .510
 P02025 .512
 P00430 .52
 P00462 .54
 P00503 .545
 P00507 .55
 P00552 .56
 P02071 .5604
 P00554 .57
 P00075 .6
 P02034 .602
 P02062 .604
 P02101 .606
 P02136 .608
 P02141 .610
 P02151 .612
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 P00226 .8
 P00120 .9

J1345

J1515

G1512
G1502

G1541

00041

00230

G1604

G1607

00072

00072

00037

00081

00023

G1710

G1710

G1751

01666

00501

00506

00040

02061

00117

00224

V1517 V1522 01522

00411

00073

00502 00505 00506

00125 00126 00130 00131

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SATS	WAD	11/29/71	ED	0	PAGE NO.	39
CU0012	NTYPE					
CU0054	NUM					
CU0052	NUMFIX					
CU0036	NUMLI					
CU0010	NUMMAX					
CU0046	NUMC					
CU0037	NUMP1					
CU0011	NW					
CU0011	NW2					
CU0040	NW3					
CU0041	NW4					
CU0042	NW44					
CU0043	NW444					
CU0017	NWHDTYPE					
CU0000	NWP					
CU0044	NWRT					
CU0045	NWRT4					
CU0046	NWZ					
CU0000	SPRCFIT					
CU0026	P00002.0					
CU0006	P00004.0					
CU0024	P00005.0					
CU0030	P00006.0					
CU0010	P00007.0					
CU0027	P00010.0					
CU0062	P00011.0					
CU0076	P00012.0					
CU0017	P00013.0					
CU0040	P00015.0					
CU0064	P00016.0					
CU0005	P00017.0					
CU0021	P00020.0					
CU0042	P00021.0					
CU0054	P00022.0					
CU0070	P00023.0					
CU0004	P00025.0					
CU0020	P00026.0					
CU0074	P00027.0					
CU0020	P00030.0					
CU0002	P00031.0					
CU0022	P00032.0					
CU0035	P00033.0					
CU0064	P00034.0					
CU0044	PAYOFF					
CU0007	PEN					
CU0066	PEX					
CU0075	PEXX					
CU0002	PPMX					
CU0020	PREMIUM					
CU0007	PREMIUMS					
CU0006	PRM					

5.415	4AU	11/29/71	ED	0	PAGE NO.	20
X00005	PRTALL	00015	00024	00030	00030	
C00006	PRCFIT	00067	00241			
C00003	PROGRESS	00115	00276			
C00000	PRMX					
X00002	Q1003100	00136	00317			
X00001	Q1010100	00133	00314			
X00004	Q8001010	00000	00012			
X00013	Q8001010	00000	00012			
C00004	QUALITY	00020	00027			
P02257	RELCON..	00524	00555			
C02571	RISK	00011	00012			
C02271	RUNSUM					
C00151	RVAL					
C00122	S	00056	00057			
C00004	S1	02076	01741			
C00076	SIG	02131	02133			
C10/00	SIGD	00052	00715			
C00040	SIGP	02117	02117			
P03447	SC	00723	00723			
C00001	SPAYOFF	01024	01025			
C00003	SPROFIT	00535	00536			
C07331	SSIG	01301	01371			
C00000	STALADJ	01035	01040			
C11616	STARRAY					
X00012	STH.					
C00011	STIME					
C14105	STK2X					
C13265	STKX					
C00002	SUMCOST					
C00004	SUMPREM					
P03450	SURP					
C00010	SURPWP					
C00032	TARDEF	00044	00112			
C00021	TARFAC	00275	00127			
C00003	TASK	00123	00162			
C00024	TAU	00121	00162			
C00005	TBENEFIT	00215	00217			
C00007	TGLAY	00362	00376			
C00010	TGLGAG					
C00006	TGTMULT					
C00000	TGTHAD					
C00011	TGTHAD					
C00041	TGTHI					
X00003	TREND.					
C00012	TCA					

CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL	DATE	REMARKS
C00245	ICARM						
C12135	ICAX						
C00112	TPMX						
P00166	TS00001.	00057	00250	00254			
P00203	TS00002.	00154					
P00212	TS00003.	00171					
P00347	TS00004.	00204					
P00364	TS00005.	00335					
P00373	TS00006.	00352					
P00466	TS00007.	00365					
P00555	TS00010.	00444					
P00554	TS00011.	00476					
P00643	TS00012.	00531					
P00637	TS00013.	00565					
P00623	TS00014.	00574					
P00726	TS00015.	00602					
P00773	TS00016.	00702					
P00771	TS00017.	00742					
P01030	TS00020.	00761					
P01027	TS00021.	00776					
P01071	TS00022.	01017					
P01154	TS00023.	01051					
P01436	TS00024.	01142					
P01443	TS00025.	01207					
P01305	TS00026.	01220					
P01304	TS00027.	01253					
P01343	TS00030.	01274					
P01341	TS00031.	01312					
P01377	TS00032.	01331					
P01375	TS00033.	01351					
P01432	TS00034.	01365					
P01430	TS00035.	01404					
P01477	TS00036.	01420					
P01473	TS00037.	01445					
P01471	TS00040.	01456					
P01526	TS00041.	01483					
P01562	TS00042.	01506					
P01650	TS00043.	01554					
P01632	TS00044.	01571					
P02026	TS00045.	01576					
P02023	TS00046.	01663					
P02015	TS00047.	01677					
P02153	TS00050.	01764					
P02147	TS00051.	02037					
P02141	TS00052.	02047					
C00621	TVALTCA	02110					
P03451	TVALTCAK	02110					
P02272	UP00002.	02266					
P02314	UP00004.	02315					
P02334	UP00005.	02316					
P02365	UP00006.	02317					
P02416	UP00007.	02317					
P02442	UP00010.	02317					
P02467	UP00011.	02317					

DATE	TIME	ED	0	PAGE NO.	22					
P02505	UP00012.	00757	02501	02506	02507	02510	02515	02516		
P02526	UP00013.	01015	02522	02527	02530	02531	02536	02537		
P02550	UP00015.	01406	02535	02544	02553	02553	02552	02562		
P02573	UP00016.	01272	01363	02567	02574	02575	02576	02603		
P02612	UP00017.	01311	01342	01403	01431	02606	02613	02614	02620	02620
P02630	UP00020.	01327	01416	02624	02631	02632	02633	02640		
P02646	UP00021.	01444	01476	02642	02647	02650	02651	02653		
P02661	UP00022.	01455	01472	02655	02662	02663	02664	02666		
P02675	UP00023.	01461	02671	02676	02677	02700	02702	02703		
P02711	UP00025.	01552	02705	02712	02713	02714	02716	02717		
P02727	UP00026.	01570	01647	02723	02730	02731	02732	02737		
P02746	UP00027.	01574	02556	02742	02750	02751	02752	02755		
P02766	UP00030.	01616	02022	02754	02762	02770	02771	02772		
P03010	UP00031.	01706	01713	01750	01762	02253	03004	03012	03001	03021
P03026	UP00032.	02036	02152	02247	03022	03030	03031	03032	03034	
P03046	UP00033.	02046	02146	02251	03042	03050	03051	03052	03063	
P03072	UP00034.	02065	02106	02250	03066	03074	03075	03076	03103	
P03105	UP00035.	02122	03106	03107	03110	03116	03116			
P03120	UP00037.	02667	03121	03122	03123	03132	03133			
P03135	UP00040.	03136	01410	03136	03137	03140	03142			
P03144	UP00041.	03662	03665	03145	03146	03147	03156			
P03161	UP00042.	03673	03162	03163	03164	03166	03166			
P03170	UP00044.	03746	03171	03172	03173	03175	03175			
P03177	UP00046.	03104	03200	03201	03202	03206	03206			
P03210	UP00047.	04511	03223	03211	03212	03213	03216			
P03220	UP00050.	01335	03221	03222	03223	03225	03225			
P03227	UP00051.	01671	02555	03231	03232	03233	03236			
P03240	UP00052.	03262	01171	03241	03242	03243	03250			
P03252	UP00053.	03660	01045	01175	03253	03254	03255	03257		
P03261	UP00054.	04434	01131	01537	03262	03263	03264	03270		
P03272	UP00055.	01165	03273	03274	03275	03277	03277			
P03301	UP00056.	02044	02252	03303	03304	03305	03307			
P03311	UP00057.	01757	02053	03312	03313	03314	03316			
P03320	UP00060.	04652	03321	03322	03323	03326	03326			
C00024	Y									
C00012	VAL									
C00016	VS									
C00016	VS									
C000172	VS									
C00005	VS									
C00040	VT									
C000151	VT									
C00020	VTEF									
C00016	VTEF									
C00015	VTEF									
C00012	VTEF									
C000131	VTEF									
C00000	VTEF									


```

SUBROUTINE MAOUT
  CUSER  MAOUT  LUN71  *****
  C      *****
  CUSE  MASTER  LUN71  *****
  C      *****
  C      USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG,
  C      RESVAL, AND DEFALCC
  C
  COMMON/MASTER/INDATE,IDENTNG,ISIDE,NKPT,NCORR,NUPEN,NRECOVER
  1,NREF,NENDRY,NREG,NTYPE,NULCON,NITBASE,NPAYLCAU,NASMIYPE,NHDTYPE
  2,TANKBAS,NCOMPLEX,NCLASS,NALERT,NIGTS,NCCORR,NCHTRY
  EQUIVALENCE(NGRUP,NG)(NALERT,NCHTRY)
  CUSER  MASTER  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG, DEFALCC,
  C      AND PRINTCON
  C
  COMMON/CONTROL/STALADJ,CLOSE,MADCP,PHONHSS,QUALITY,NPASS,PRM,DELT
  1,VAL,COHR,STIME,VERIFY,CMR2,IMATCH
  1,PTDANAG,LA(12),FALMIRV,IAHFAC
  TYPE INTEGER MAOUT
  TYPE REAL MINDANAG
  CUSER  CONTROL  LUN71  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG, RESVAL,
  C      DEFALCC, AND PRINTCON
  C
  COMMON/DYNAMIC/TOTNAME,INDEXNO,DESIG,TASK,CNTNLYCC,FLAG,IGMULT,
  1,IGLAT,IGLONG,IGTRAU,VTG,M,M(2),VC(2),NK,FVAL(3),TAU(3),INCLASS,
  2,ICLASS,IMTYPE,TARDEF,INDYPER,DISTDF,UIDSTG,NBLN,CTMULT,VT,
  3,IGMT(3),PAYCFF,COST,PROFIT,UPROFIT,WRTEST,INECT,NUMFIX,
  4,IGT,NUM,IG(30),KORR(30),NVAL(30),PEN(30),ICARR(30),LDN
  C      *****
  C      TYPE INTEGER TOTNAME,DESIG,TASK,CNTNLYCC,FLAG,TARDEF
  C
  EQUIVALENCE (UNAME,IG(NAME))
  C
  DATA (LUN = 45)
  C
  DIMENSION VTG(30)
  EQUIVALENCE(VTG, RVAL)
  C
  CUSER  DYNAMIC  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, MAD, MAOUT, PRINTNG, RESVAL, DEFALCC
  C
  COMMON/LAMBDA/
  1 LAMEF(200),SURPWP(200),PREMIUM(200),UPREMIUM(200)
  TYPE REAL LAM(200)
  EQUIVALENCE (LAM,LAMEF)
  CUSER  LAMBDA  LUN71  *****
  C      *****
  C      USED BY STALL, MAD, MAOUT, AND PRINTNG
  C
  COMMON/MAOUTFINAL/

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1      VTR(200),DELVI(30),NUMG,IGG(30),ICP,ICPS,CTSP,ILL
CEND  WAUFINAL *****
CUSE  WADOUT  LJUN71 *****
C      USED BY STALL, WAD, WADOUT, AND PMWINGM
C
C
COMMON /WADDPN/
1      PVRMA,IPVRMA,PPMA,IPPMX,DVMMN,IDVRMN,DPMN,IDPMN,NUMMAX,M
1      IPMA,NICAN,IGMAA,VIMIN,VIMAX,ALPHA,VTEF,VIZC
CEND  WADOUT *****
CUSE  WADDPN  LJUN71 *****
C      USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNC, MESVAL, DEFALOC,
C      STALL, FMUP, SORTPSH, TABLEUP, HDALCRU
C
COMMON /WADDPN/ JGT, INACTIVE(200), TCA(200),
1      IVTICA(200), VTCA(200,2), MUP(200,2), MISK(0,200,2),
2      SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAM,
3      MISDEF, MCH(200), PEX(200), AMUP(200,2), JGTIX, LNEXT,
4      MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, LXA(200), TCA(200),
5      MCHRX(200), PEX(200), SIKX(200,2), STRKX(200,2), LSTMAX
C
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSA
C
C      DIMENSION STARMAY(1007), ISTARAY(1007)
C      EQUIVALENCE (STARMAY, ISTARAY, JGTIX)
C
C      DATA (LSTMAX = 1607)
C
CEND  WADDPN *****
C      DATA (VALMAX=1000.)
C      TYPE LOGICAL REEVAL
C *****
C      INACTIVE KEY
C      -100 ON TARGET UG NOT SET INACTIVE
C      0 NOW ACTIVE
C      100 PERMANENTLY INACTIVE--SHORT OF RANGE
C      200 INACTIVE THIS PASS--NEGATIVE PROFIT AS FIRST WEAPON--OR
C      EFFICIENCY MUCH LESS THAN 1 LATEM
C      3000 TENTATIVELY INACTIVE THIS PASS UNLESS CHANGE IN ALPHA REVIVES
C      IT IN REEVALUATION CYCLE OF WADOUT
C      CALL PHATALL(1J)
300 IF (IMATCH.NE.O) 390,600
C ***** THEN MEANTHREPT VIMIN AND VIMAX
350 IF (WADDP.EQ.1) 400,450
400 SYNTHIN=VIMIN
VIMIN=O.O 3 IFLGNN=O
IF (SVTMIN.NE.O) 410,420
410 IFLGNN=1
420 SVTMAX=VIMAX
VIMAX=VIT
IFLGMX=C
IF (SVTMAX.LI..9999VT) 430,600
430 IFLGMX=1 5 VIMAX=O.O
440 GC TO 600
C *****

```

```

450 IF (IFLGPMX.EQ.0) J70C=0
460 IF (VTZC.LE.SVTMAX) 470,600
470 VTMAX=VT
   IF IFLGPMX=0
700 IF (IFLGMN.EQ.0) 800,710
710 IF (VTZC.LE.SVTMIN) 720,600
720 VTMIN=VT
   IF IFLGMN=0
600 MEVAL = .FALSE.
   IF (IMATCH.EQ.1) 1601,602
601 CONTINUE
   PRINT 730,VTG,VT,VTZC,IFLGMN,IFLGPMX,SVTMIN,SVTMAX,VTMIN,VTMAX,
   ALPHA
730 FORMAT(4H VTG,F10.4,3H VT,F10.4,5H VTZC,F10.4,7H IFLGMN,I5,
17H IFLGPM,I5,7H SVTMIN,F10.4,7H SVTMAX,F10.4,6H VTMIN,F10.4,
20H VTMAX,F10.4,50H ALPHA,F10.4)
602 CONTINUE
C   SET FLAG FOR INITIAL EVALUATION
   IF (VT.LT.VTMIN) 12
1 VTEF=VT
2 VTEF=VT
3 DPMN=1.CE200
   IUPM=1
C   PRINT 3C1,1,NUM,ALPHA,FLAG,VTMAX,VTMIN,VT,VTEF,STALADJ
C 3C1 FORMAT(//,213,3X,7F8.4//)
   NFIXED = XMINOF(NUM,NUMFIX)
   UC 18 NAX = 1. NFIXED
   JG = IG(NAX)
18 INACTIVE(JG) = -100
   NUMFIX=1
   UC 14 NMAX=NUM
   TAG GROUPS ASSIGNED--MUST REMAIN ACTIVE
   JG=IG(NAX)
   INACTIVE(JG)=-100
   IF (VTD(NAX).LT.VTMIN) 31,32
31 VIDE=VTMIN
32 VIDE=VTD(NAX)
33 BENEFIT=(VTEF-VTEF)*ALPHA-DPREMIUM(JG)
   IF (((VTEF - VTEF)/VIG) .LT. MINDAMAG) 15, 16
16 CONTINUE
   UP=BENEFIT-LAMEF(JG)
   IF (UP .LT. DPMN) 12,14
15 UP = -1000.
12 DPMN=UP
   IDPMN=NAX
14 CONTINUE
C
17 PPMX = C.6
   PPMX=C.0
   IPPMX=1
   IPVRMX=1
   FACTOR=1.0E200
   UC 10 JG=1,NG
C   PRINT 3C2,2,JG,INACTIVE(JG),VIP(JG),PREMIUM(JG),LAMEF(JG)
C 3C2 FORMAT(215,F10.4)
   IF (INACTIVE(JG).GT.10) 140,40

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140 IF (INACTIVE(JG).LT.10.000)10,35
C   SKIP OVER (1) AND (2)
35 IF (REVAL) 37, 36
C   IF REVAL SET 3 TO ZERO, OTHERWISE TO 2
36 INACTIVE(JG)=2000
   GO TO 10
37 INACTIVE(JG)=0
C   EVALUATE REMAINING ACTIVE (0 OR -1)
40 IF (VIP(JG).LT.VMIN)41,42
41 VIP=VTMIN $ GO TO 43
42 VIP=VIP(JG)
43 VUIF = (VIP-VIPEF)
   IF ((VUIF/VTQ).LT. MINDAWAG) 69, 44
44 CONTINUE
   BENEFIT = VUIF*ALPHA*PREMIUM(JG)
   PPC = VUIF * ALPHA * LAMEF(JG)
   PF = BENEFIT-LAMEF(JG)
   VIABTEF=ALPHA
   IF (PP.GT.PPMA)5,6
5   PP=PPMA
   LPPMA=JG
6   IF (PP) 610, 620, 620
610 PVR = BENEFIT / LAMEF(JG)
   GO TO 500
620 PVRCON = (1.0 + STAL-UJ * VIA / (VIA - PPC)) / (1.0 + STAL-UJ)
   PVR = 1.0 + ((PP/LAMEF(JG)) * PVRCON)
C   ROUND-OFF COMPUTABILITY CHECK
500 IF (PVR-(PVR-1.0)) 510,510,7
510 CONTINUE
C   PRINT 511, JG, PP, PVR, PVR, PVR
C 511 FORMAT(1X,15I2(2A,16I2A,15,7))
   IF (PP) 520, 540, 530
520 PVR = .999999 $ GO TO 7
530 PVR = 1.000001 $ GO TO 7
7   IF (PVR.GT.PVRMA)8,62
8   PVRMA=PVR
   IF PVRMA=JG
62 IF (PVRMALE.1.000001) 64,68
C   CALCULATE FACTOR FOR ALPHA
64 RFACI=(1.0)*LAMEF(JG)-PREMIUM(JG)/VUIF
65 FACTOR=RFACI
C
68 IF (INACTIVE(JG).LT.0.00970
69 INACTIVE(JG)=0 $ GO TO 10
C   CONSIDER PARKING INACTIVE UNLESS NOW NEW
70 IF (PVR.GT.1.0) 10,72
72 IF (NUM.EH.0)75,73
73 IF (PVR.LT.0.1174910
74 IF (DOWN.GT.0.0)75,10
C   MAKE TENTATIVELY INACTIVE
75 INACTIVE(JG)=30000
C 10 PRINT JG,3,JG,INACTIVE(JG),VIP(JG),PREMIUM(JG)
C 11 BENEFIT,PP,PVR,PVRMA
10 CONTINUE
   CALL PRINTALL (10)

```


FTMS.5

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IF(PVRMX.LE.1.0) 110,200
CHECK FOR MINKILL
C 110 IF(VT.GT.VTMAX)120,200
C 120 RAISE EFF TOT VALUE AND REEVALUATE--UNLESS COST ALREADY TOO HIGH
120 IF(COSTALT.(MACCOST*VTC)) 125,190
125 IF(FACTOR.GT. 100.) 130,127
127 IF(ALPHA.GE.FACTOR) 130,130
130 ALPHA=FACTOR
REEVAL = .TRUE.
CALL PNTALL(10)
GO TO 3
C 190 RETURN IF MINKILL CANNOT BE ACHIEVED
200 CONTINUE
CALL PNTALL (10)
RETURN
END
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DATA

WADOUT

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0

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6

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

WADOUT

MASTER
CONTROL
DYNAMIC
LAMBDA
WADFINAL
WADOUT
WADWPN

EXTERNAL SYMBOLS

Q3U1004C
TREND.
Q3U0004C
Q3U0004C
PRNTALL
XWINOF
SIM.
QNSINGL.

IDENT

WADOUT

Q0003
Q0045
Q0027
Q0022
Q0304
Q1440
Q0410
Q0022
14726

5-15 44001

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CODE	DESCRIPTION	00160	00241	00337	00337	00342	00343	00351	00507	00514	00514
CU0017	ALPHA										
PU0533	REGIN.										
PU0550	BENEFIT										
CU0001	CLOSE										
CU0004	CNTRYLOC										
PU0532	CNVRTI.										
CU0010	CORR										
CU0013	CORR2										
CU0045	CCST										
PU0557	COUNT.										
PU0004	CRFAT.										
CU0037	CTMULT										
CU0047	CTSPILL										
CU0007	DELYAL										
CU0010	DELYT										
CU0002	DESI9										
PU0001	DICT.										
CU0034	DISTOF										
CU0000	DISTUG										
CU0000	DNARWAY										
PU0560	OP										
CU0000	DPAN										
CU0010	DPREMIUM										
CU0047	DPRCFIT										
CU0004	DVRMN										
PU0535	ENDING.										
PU0000	EXIT.										
CU0020	FACIRV										
PU0561	FACTOR										
CU0005	FLAG										
PU0004	FORMAT.										
CU0021	FVAL										
PU0163	GG00000.										
CU0014	H										
CU0030	ICLASSN										
CU0001	IDNTAC										
CU0007	IDPMN										
CU0005	IDVRM										
PU0562	IFLGMN										
PU0563	IFLGMX										
CU0055	IG										
CU0037	IGC										
CU0025	IGX										
CU0027	IMCLASS										
CU0000	IMDATE										
CU0005	IMECT										
CU0031	IMTYPE										
CU0014	ILAN										
CU0001	IMATCH										
CU0001	INACTIVE										
CU0001	INDEXNO										
CU0033	INDYPEN										
PU0523	INITIAL.										

S. #	TS	WADOUT	11/29/71	EO	0	PAGE NO.	9
P00137	.601						
P00163	.602	U0136					
P00364	.610	U0362					
P00370	.620	U0362					
P00427	.62	U0422					
P00432	.64	U0431					
P00440	.65						
P00442	.68	U0431	U0437				
P00445	.69	U0335					
P00420	.7	U0410					
P00447	.70	U0443					
P00123	.710	U0121					
P00126	.720	U0125					
P00452	.72	U0450					
P00455	.73	U0453					
P00460	.74						
P00463	.75	U0454					
P00423	.8						
P00537	.ERASEH.	U0371	U0375	U0377	U0400		
P00004	.8730	U0142					
P00564	JG	U0206					
C00000	JTGT						
C11616	JTGT						
C00113	KCR						
C00000	LAM						
C00000	LAMEF						
C00016	LAW						
C00303	LDN						
C11617	LNEXT						
C14725	LSTMAX						
C00013	M						
C10153	MAXCOST	U0500					
C11622	MAXCOST						
C10152	MAXKILL						
C11621	MAXKILL						
C00015	MINDAPAG						
C10151	MINKILL						
C11620	MINKILL						
C10155	MISDEF						
C11623	MISDEF						
C10150	MOR						
C12445	PCRRX						
C01751	MUP						
C11624	NACTV						
C00023	NALEMT						
C00016	NASMTYPE						
C00036	NBLN						
C00010	NBNDRY						
C00022	NCLASS						
C00026	NCNTRY						
C00021	NCOMPLEX						
C00004	NCORH						
U0253	U0254	U0343	U0344	U0346	U0346	U0402	U0433
U0433							
U0003							
U0003							
U0500							
U0247	U0333	U0334					
U0247							
U0357	U0425	U0357	U0425	U0402	U0466		

1-4TS

WABUUI

CU0025 NCORTYPE
CU0005 NDPEN
PU0565 NFIXED
CU0013 NG
CU0013 NGROUP
CU0020 NK
CU0023 NOTHER
CU0005 NPASS
CU0015 NPAYLOAD
CU0006 NRECOVER
CU0007 NREF
CU0011 NREG
CU0003 NRTPT
CU0020 NTANKBAS
CU0024 NTGTS
CU0013 NTCA
CU0014 NTGAMAX
CU0014 NTGTBASE
CU0012 ATYPE
CU0566 NU
CU0054 NUM
CU0052 NUMFIX
CU0010 NUMMAX
CU0346 NUMC
CU0011 NW
CU0017 AWHOTYPE
PU0567 NWA
CU0044 PAYOFF
CU0207 PEN
CU0466 PEX
CU0755 PEXX
PU0570 PP
CU0002 PPMK
PU0571 PPC
CU0020 PREMIUM
CU0006 PRM
XU0005 PRNTALL
CU0046 PRSFIT
CU0003 PRSGRESS
PU0572 PVR
PU0573 PYRCORR
CU0000 PVRMX
XU0001 Q3000C40
XU0004 Q3010C40
XU0004 Q3010C40
XU0010 QNSINGL
CU0004 QUALITY
PU0530 REEVAL
PU0574 WFACI
CU0571 RISK
CU0151 KVAL
CU0733 SSIG
CU0000 STALADJ
CU0016 STARHAY

10

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10

CU0215 00215 00220 00452 00452
CU0177 00216 00217 00452 00452
CU0177 00213 00213 00452 00452

CU0201 00204 00221 00264 00267

CU0347 00352 00355 00361 00401 00411
CU0270 00271 00353 00356 00356
CU0345 00371 00434 00434
CU0340 00340 00520 00524
CU0051 00467 00467 00467 00467

CU0366 00404 00405 00415 00417 00423 00455
CU0401 00403 00421 00421 00424 00472 00472
CU0272 00421 00421 00421 00424 00472 00472
CU0311 00516 00516 00516 00516 00516 00516
CU0000 00000 00000 00000 00000 00000 00000
CU0531 00531 00531 00531 00531 00531 00531
CU0134 00134 00134 00134 00134 00134 00134
CU0435 00435 00435 00435 00435 00435 00435

CU0372 00372 00372 00372 00372 00372 00372

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STH.	SYMBOLS
X00007	SYM.
C00011	TIME
C14105	STRZA
C13265	STKX
C00010	SURPWP
P00575	SVTMAX
P00578	SVTAIA
C00032	TARDEF
C00021	TARFAC
CJJ0C3	TASK
C00024	TAU
C00007	TGTLAT
C00010	TGTLONG
CJ0000	TGTMULT
C00000	TGTNAME
C00011	TGTRAD
C00041	TGTW1
X00002	TEND.
C00311	TGA
C00045	TGARR
C12135	TQAX
C00012	TPMX
P00213	TS00001.
P00270	TS00002.
P00467	TS00003.
C00021	TVALTCA
P00003	VALMAX
P00577	VDIF
C00010	VC
C00040	VT
C00000	VTA
C00151	VTD
P00601	VTEF
C00020	VTEF
C00016	VTHAX
C00015	VTHIN
C00012	VTC
C01131	VTOA
C00000	VTP
P00602	VPEF
C00021	VTCZ
C00002	WADDQ
P00045	WADOUT
C00050	WRITEI
00205	WS00001.
P00223	WS00002.
P00303	WS00003.
X00006	XMINOF
C10776	XMUP
J0407	SYMBOLS

```

PROGRAM ALOCOUT
CBLR  ALOCUT 18NOV71 *****
C
C FILEHANDLER COMMON BLOCKS
C
C CUSE  FILABEL 15APR71 *****
C
C COMMON/FILABEL/INIDENT,INRUNG,INDATE,INFORM,INSECR,INTIME,
1 INLGTH,INCOMM(5)
C
C CEND  FILABEL *****
C CUSE  IFTPRNT 15APR71 *****
C
C COMMON/IFTPRNT/IFTPRNT(10)
C
C CEND  IFTPRNT *****
C CUSE  ITP 15APR71 *****
C
C COMMON/ITP/ITP
C
C CEND  ITP *****
C CUSE  MYIDENT 15APR71 *****
C
C COMMON/MYIDENT/MYIDENT
C
C CEND  MYIDENT *****
C CUSE  MYLABEL 15APR71 *****
C
C COMMON/MYLABEL/MYFORMT,MYSECR,MYLGTH,MYCOMM(5)
C
C CEND  MYLABEL *****
C CUSE  NOPRINT 15APR71 *****
C
C COMMON/NOPRINT/NOPRINT
C
C CEND  NOPRINT *****
C CUSE  DATA (NOPRINT = 1)
C
C COMMON/TWORD/TWORD
C
C CEND  TWORD *****
C
C COMMON BLOCKS FROM BASFILE
C
C CUSE  MASTER 15APR71 *****
C
C COMMON/MASTER/INDATE,IDENTNO,ISIDE,NRTPT,NCORR,NOPEN,NRECOVER,
1 NREF,NBNDRY,NREG,NTYPE,NGROUP,NTOTBASE,NPAYLOAD,NASHTYPE,
2 NWHOTYPE,NTANKBAS,NCOMPLEX,NCLASS,NALERT,NTOTS,NCORTYPE,NCNTRY
C
C CEND  MASTER *****
C CUSE  FILES 15APR71 *****
C
C COMMON/FILES/TGTFIL(2),BASFILE(2),MSLTIME(2),ALOC(2),
1 TMPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE,PLANTAPE

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C      C      INDICATOR FOR TARGET WHICH IS A CITY
C      CUSE    CITY    15APRT1 *****
C      C      COMMON/CITY/ICITY
C      CEND    CITY *****
C      DATA (ICITY=0) *****
C      SCRATCH FILE USED BY PROCSIMP
C      CUSE    SCRATCH 15APRT1 *****
C      C      COMMON/SCRATCH/ISCRATCH
C      CEND    SCRATCH *****
C      DATA (ISCRATCH = -2) *****
C      DATA (IBLANK = 8H )
C      PRINT PROGRAM VERSION
C      CALL VALOCOUT
C      CALL STORAGE
C      CALL TIME(-1)
C      INITIALIZE FILEHANDLER
C      MYIDENT=7HALOCOUT
C      CALL INITAPE
C      POSITION BASEFILE FOR READ
C      BASFILE(1)=8
C      ITR=BASEFILE(1)
C      MYIDENT=7MBASFILE
C      CALL SETREAD
C      HAS BASFILE FORMAT CHANGED
C      ITSTBSFL=8HNOV 70
C      IF (INFORM .NE. ITSTBSFL)12,14
C      12 CONTINUE
C      13 PRINT 13, ITSTBSFL, INFORM
C      13 FORMAT (///1X,15(1H),5X,33H WRONG BASFILE FORMAT. REQUESTED ,AB,
C      15H GOT ,AB)
C      STOP
C      14 CONTINUE
C      INSEL=BASEFILE(1)
C      IF (INSEL)15,16
C      READ COMMON BLOCKS /MASTER/, /FILES/, /MPHREG/ FROM BASFILE
C      CALL RDARRAY(1,HDAT,23)
C      CALL SKIP(545)
C      CALL RDARRAY(1,GTFILE,16)
C      CALL SKIP(1444)
C      CALL RDARRAY(CCREL,20)
C      CALL SKIP(80)
C      READ /NTYPE/ FROM BASFILE
C      CALL RDARRAY(CEP,80)
C      CALL SKIP(480)
C      CALL RDARRAY(REL,80)
C      CALL SKIP(1120)
C      READ /NGROUP/ FROM BASFILE

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CALL RDARRAY(IREG,400)
CALL SKIP(200)
CALL RDARRAY(SBL,200)
CALL SKIP(200)
CALL RDARRAY(YIELD,200)
READ END SENTINEL
CALL SKIP(6958)
CALL ROWORD
IF (ITWORD .NE. 8HRRRRRRR)1000,1200
1000 CONTINUE
PRINT 1100,ITWORD
1100 FORMAT (///74H ERROR IN SKIPPING TO POSTDATA PORTION OF BASFILE.
      1END SENTINEL READ WAS ,AB)
CALL ABORT
1200 CONTINUE
POSITION TMPALOC FOR WRITE
MYIDENT=THTMPALOC
MYLNGETH=TMPALOC(2)
ITP=TMPALOC(1)
CALL SETWRITE
POSITION ALOCTAR FILE FOR READ
MYIDENT=HALOCTAR
ITP=ALOCTAR(1)
CALL SETREAD
POSITION SCRATCH FILE FOR WRITE
MYIDENT=THSCRATCH
MYLNGETH=1000000
ITP=ISCRATCH
CALL SETWRITE
READ PRINT OPTION CARD FOR BASFILE AND ALOCTAR FILES
IPINDAT PRINT FREQUENCY FOR ALOCTAR DATA BLOCKS
ISNAPDYN NUMBER OF ARRAYS AT BEG OF ALOCTAR FILE TO BE DUMPED
IWDSNPDY NUMBER OF WORDS PRINTED AT BEG AND END OF FIRST
      1ISNAPDYN ARRAYS ON ALOCTAR FILE (NO PRINT IF 0)
IWDSNPPD NUMBER OF WORDS PRINTED AT BEG AND END OF COMPLEX TARGET
      1ARRAYS FROM BASFILE (NO PRINT IF 0)
READ 111,IPINDAT,ISNAPDYN,IWDSNPDY,IWDSNPPD
111 FORMAT(410)
IFTPRNT(185FL)=IWDSNPPD
READ DBZ SELECTION LOGIC CARD
CALL DBZSEL
IREC=0
11 IREC=IREC+1
UPDATE /IFTPRNT/ TO REFLECT USER PRINT OPTIONS FOR ALOCTAR
ITP=ALOCTAR(1)
IALCTR=ALOCTAR(1)
IF(IREC-ISNAPDYN+1)16,18,20
16 CONTINUE
IFTPRNT(IALCTR)=IWDSNPDY
GO TO 20
18 CONTINUE
IFTPRNT(IALCTR)=0
20 CONTINUE
READ FIRST LDYNAM WORDS OF /DYNAMIC/ FROM ALOCTAR
CALL RDARRAY(TGTNAME,LDYNAM)

```

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```

C ARE ANY WEAPONS ASSIGNED TO THE TARGET
  IF (NUM)202,202,201
201 CONTINUE
C READ WEAPON DATA FOR NUM WEAPONS INTO /DYNAMIC/ FROM ALOCTAR
  CALL RDARRAY(IG,NUM)
  CALL RDARRAY(KORR,NUM)
  CALL RDARRAY(VTO,NUM)
  CALL RDARRAY(PEN,NUM)
  CALL RDARRAY(TOARR,NUM)
202 CONTINUE
C HAS END OF INFORMATION BEEN REACHED ON ALOCTAR
  IF (IMEOT-NE,3HEOT) 25,200
25 IF (NUM)27,26
C ARE ANY WEAPONS ASSIGNED TO THE TARGET
26 CONTINUE
  ITP=BASFILE(1)
C WAS ORIGINAL TARGET A MULTIPLE TARGET
  IF (ITGTMULT.GE.2.0)290,270
  MULTIPLE TARGET
C 260 MULT=CTMULT
C READ 8 WORD RECORD FROM / TARGET/ ON BASFILE FOR EACH
  TARGET ELEMENT INTO /MULTTGT/
  DO 262 I=1,MULT
    CALL RDARRAY(MULTTGT,LMULTTGT)
262 CONTINUE
  IS TARGET COMPLEX
270 IF (IMCLASS.EQ.8MCOMPLEXD.OR.IMCLASS.EQ.7MCOMPLEX) 272,280
272 ICOMP=INTYPE
C FOR A COMPLEX TARGET READ 29 WORD RECORD FROM /TARGET/ ON BASFILE
  INTO /TARGET/
  DO 274 I=1,ICOMP
    CALL RDARRAY(TARGET,LTARGET)
274 CONTINUE
280 GO TO 11
C FILL /STRK/ WITH TARGET DATA
27 NAME=TOBNAME $ INDEX=INDEXNO $ DSIG=DESIG $ TSM=TASK
  CNTRL=CNTRYLOC $ FLG=FLAG $ JMCLASS=JMCLASS $ JCLASS=JCLASS
  JTYPE=INTYPE $ TLAT=TLAT $ TLONG=TLONG $ IATLOC=IATLOC
  ITPREM=0 $ IDPM=INDYPM $ DIST=DISTDF $ DISTO=DISTDF
  MULT=0 $ ICOMP=0 $ NUM=NUM $ MAPX=MAPX
  RESET VALUES OF ITPREM, MULT, AND ICOMP DEPENDING ON IMCLASS VALUE
30 IF ((ICLASS=4).OR.(ICLASS=5))60,50,60
40 ICOMP=INTYPE
50 ITPREM=1
60 IF (IMCLASS.EQ.7MCOMPLEX) 70,80
70 ICOMP=INTYPE
80 IF (ITGTMULT.GE.2.0)90,100
90 MULT=CTMULT
C FILL /STRK/ WITH WEAPON DATA
100 MNUM=NUM
  DO 110 I=1,MNUM
    IG(I)=IG(1) $ KOR(I)=KORR(I) $ DLAT(I)=0. $ DLONG(I)=0.
    TOA(I)=TOARR(I) $ RELVAL(I)=VTO(I)/PEN(I) $ PENN(I)=PEN(I)
110 CONTINUE
C CALL PROCSIMP, PROCMULT, OR PROCCOMP FOR SIMPLE, MULTIPLE, OR

```

```

C      COMPLEX TARGETS. PROCHULT READS ONE RECORD FROM BASFILE FOR EACH
C      TARGET ELEMENT. PROCCOMP READS A RECORD CONTAINING ADDITIONAL
C      COMPLEX TARGET DATA FROM BASFILE AND CONTROLS SELECTION OF
C      OPTIMAL AIM POINTS. BOTH PROCHULT AND PROCCOMP USE PROCSIMP TO
C      WRITE STRIKE RECORDS ON AN INTERMEDIATE FILE.
      IF (ICOMP.EQ.0) 120,150
120 IF (NULL.EQ.0) 125,140
125 IF (TOTRAD) 145,130
130 CALL PROCSIMP
      GO TO 10
140 CALL PROCHULT
      GO TO 10
145 IF (NUM-1) 111,130,146
C      TARGET IS A CITY
146 CALL FILTGT
      ICOMP=1 & ICITY=1
150 CALL PROCCOMP
      GO TO 10
C      CHECK PRINT FREQUENCY SPECIFICATION AND DETERMINE WHETHER TO
C      PRINT /STRK/.
      IF (IPINDAT.EQ.0) 80 TO 11
      IF (IREC-IREC/IPINDAT)*IPINDAT) 11,112
112 CALL TIMEH(-2)
      PRINT 113,ITGT
113 FORMAT(1H0,26H-----TARGET NUMBER IS 15,10H-----)
      PRINT 115,NAME,INDEX,JMCLASS,JMTYPE,TLAT,TLONG,IATLOC,ITPREM,
      1IDPN,DISF,DISG,MULL,-----P,NDISG,CNTRLC,PLG,TSK
115 FORMAT(1H0,5X,4NAME,9I,23INDEX JMCLASS JMTYPE,4X,
      1 4TLAT,4X,5HTLONG,2X,6IATLOC,2X,6MITPREM,2X,4MIOPM,3X,9HDISF,
      2X,5HDISG,2X,4HMULL,2X,5HICOMP,3X,1HN,3X,5HOSIS,1X,2HCL,1X,1MF,
      34H TSK/4X,A8,17,3X,A8,1X,A8,F6.1,F9.1,16,18,17,
      43X,F6.1,2X,F6.1,2X,13,4X,12,3X,13,3X,A5,1X,A2,1X,11,1X,A2)
      PRINT 116
116 FORMAT(1H0,9X,3HIGG,10X,3HKOR,11X,4HOLAT,12X,5HDLONG,12X,3HTOA,
      1 10X,6HRELVAL,6X,4HPENN)
      DO 117 1=1,N
117 PRINT 118,(STRK(I,J),J=1,7)
118 FORMAT(10X,13,10X,12,10X,2(F7,4,9X),F6.1,10X,F6.1,4X,F6.4)
      PRINT 1180,TSTRAD,VTO,M,H,VO,MK,FVAL,TAU
1180 FORMAT(8H TSTRAD=F6.2,5H VTO=F6.2,3H M=11,3H M=2F7.3,4H VO=2F7.3,
      1 4H MK=11,6H FVAL=3F5.3,5H TAU=3F6.3)
      CALL TIMEH(-3)
      GO TO 11
C      END OF FILE ON ALOCTAR
200 IEOY = 1 & CALL PROCSIMP
C      RELEASE AND REWIND BASFILE AND ALOCTAR FILES
      ITP=ALOCTAR(1)
      CALL TERMTAPE
      ITP=BASFILE(1)
      CALL TERMTAPE
      FINISH CURRENT WRITE. WRITE END-OF-FILE. AND REWIND SCRATCH FILE.
      ITP=SCRATCH
      CALL TERMTAPE
      CALL TIMEH(2)
C      USE ALOCTUT2 TO REARRANGE SCRATCH FILE IN WEAPON GROUP ORDER AND
C      TO WRITE TMPALOC OUTPUT FILE.

```

FTN5.5

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CALL ALOCOUT2
MYIDENT = 7X1315FILE
CALL DEACTIV
PRINT 7777

WRITE (44,7777)

7777 FORMAT (41H ***** PROCESSOR ALOCOUT COMPLETED *****)
STOP
END

247000
248000
249000
250000
251000
252000
253000
254000

IDENT ALOCOUT

01400
00346
00014
00012
00001
00001
00010
00001
00001
00001
00027
00020
00024
01700
00035
00010
00303
00350
00001
00001

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

ALOCOUT
FILABEL
IFTPRNT
ITP
MYIDENT
MYLABEL
NOPRINT
THORD
MASTER
FILES
WPNREG
WGROUP
TARGET
MULTTGT
DYNAMIC
STRK
CITY
SCRATCH
QOENTRY
THEN.
QOSTOPP
Q1010100
QOEDICT.
VALOCOUT
STORAGE
TIME
INITAPE
SETREAD
R0ARRAY
SKIP
RDWORD
ABORT
SETWRITE
DOZSEL
PROCSMP
PROCMULT
FILTGT
PROCCOMP
TERMTAPE
ALOCOUT2
DEACTIV
TSM.
STH.
SLO.
QNSINGL.

EXTERNAL SYMBOLS

S.4TS ALOCOUT

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X00016 ABORT 00521
C00012 ALOCMP
P00346 ALOCOUT 00346
X00026 ALOCOUT2 01264
C00006 ALOCUTAR 00535
C00002 BASFILE 00370
C00000 CCREL 00442
C01440 CEP 00450
C00004 CMTRLC 00724
C00004 CMTRYLOC 00723
P01312 CMVRT1. 00410
01122 01123 01136 01137 01140 01142 01135
C00045 COST 01017
P01364 COUNT. 00415
P00007 CRFMT. 00521
C00037 CTMULT 00651
X00027 DEACTIV 01270
C00002 DESIG 00717
X00020 DZSEL 00570
P00001 DICTY. 00350
00430 00471 00553
01046 01051 01057
01157 01173 01202
01254 01260 01262
00746 00750 00750
00747 00751
C00014 01025
C00152 OLONG 01026
C00047 OPROFIT
C00002 OSIG 00720
P01342 ENDING. 00417
C00016 EVENTAPE
P00000 EXIT. 01342
X00023 FILTGT 01056
C00005 FLAG 00725
C00005 FLG 00726
P00007 FORMAT. 00373
00377
01266
C00021 FVAL 01224
P00415 GG00000. 00403
P00521 GG00001. 00511
P00565 GG00002. 00551
P01112 GG00003. 01102
P01143 GG00004. 01112
P01151 GG00005. 01143
P01174 GG00006. 01155
P01233 GG00007. 01200
P01300 GG00010. 01272
P01306 GG00011. 01300

00576 00576 00576 00600 00600 01245 01245
00371 00420 00420 00644 00644 01251 01251
00724 01136
00723 00723 00412 00516 00557 00360 00561 01107 01117 01120 01121
01122 01123 01136 01137 01140 01142 01135 01132 01133 01134
01017 00415 00521 00651 01270 00717 00570 00350 00430 00471 00553
01046 01051 01057 01157 01173 01202 01254 01260 01262 00746 00750 00750
00747 00751 01025 01026 00720 00417 01342 01056 00725 00726 00373
00377 00506 00523 00533 00541 00637 00667 00760 00777
00354 00356 00362 00367 00376 00405 00414 00417 00425
00436 00441 00444 00447 00452 00455 00460 00463 00466
00477 00502 00505 00513 00520 00532 00540 00550
00571 00614 00621 00624 00627 00632 00635 00661 00764
01051 01064 01100 01111 01114 01142 01150 01150
01202 01212 01216 01223 01227 01232 01236 01244 01250
01262 01265 01271 01274 01302 01305 01310
00746 00750 00750 00747 00751 01025 01026 00720 00417 01342
01056 00725 00726 00373 00377 00506 00523 00533 00541 00637 00667 00760 00777
01342 01056 00725 00726 00373 00377 00506 00523 00533 00541 00637 00667 00760 00777
01266 01224 00403 00511 00551 01102 01112 01143 01155 01200 01272 01300

5.4TS	ALOCOUT	12/28/71	ED	0	PAGE NO.	10
C00014	H	01213				
P01365	I	00555				
P01366	I	00601				
C00013	IATLOC	00742				
P00006	IBLANK					
P01367	IBSFL	00421				
C00000	ICITY	00006				
C00030	ICLASS	00731				
C00343	ICOMP	00676				
		01060				
C00001	IDENTNO	00745				
C00015	IOPN	00745				
C00346	ISOT	00346				
P00672	IF00001					
C00000	IFTPRINT	00423				
C00055	IB	00422				
C00020	IB	01022				
C00027	INCLASS	00667				
C00000	INDATE	00426				
C00051	IMEOT	00006				
C00031	INTYPE	00637				
P01313	IN00004	00675				
		01164				
C00007	INCOMH					
C00002	INDATE					
C00001	INDEX	00716				
C00001	INDEXNO	00715				
C00033	INDYPEN	00744				
C00003	INFORM	00401				
C00000	INIDENT					
X00011	INITAPE					
C00006	INLN0TH					
C00001	INRUNNO					
C00004	INBECH					
C00005	INTIME					
P01370	IPINDAT					
P01371	IPEC					
C00000	INEB	00556				
C00000	ISCRATCH	00573				
C00002	ISIDE	00464				
P01372	ISNAPDYN	00006				
C00345	ISTAPE	00560				
C00000	ITP	00006				
		01106				
C00014	ITPREM	00371				
P01373	ITS78SFL	00845				
C00000	ITWORD	00743				
C00310	ITYPE	00400				
P01374	IWDSNPOY	00506				
P01375	IWDSNPPH	00561				
P00511	.1000	00562				
P01012	.100					
P01065	.10	01006				
P01067	.100001	01047				
		00706				
		00700				
		00663				
		00611				
		01125				
		00422				
		01002				
		00731				
		00676				
		00710				
		01133				
		00706				
		01014				
		01020				
		01152				
		01174				
		01321				
		00765				
		00766				
		00774				
		00774				
		01003				
		01063				
		01037				
		01037				
		00567				
		00606				
		00607				
		00611				
		00612				
		00727				
		00727				
		00760				
		00760				
		00777				
		00777				
		00773				
		00773				
		01340				
		00411				
		00411				
		01070				
		01074				
		01073				
		00602				
		01255				
		01255				
		00530				
		00536				
		01252				
		01256				
		01256				
		00545				
		00546				
		00577				
		00577				
		00545				
		00530				
		01266				
		00775				
		00407				
		00515				
		00515				
		00605				
		00562				
		00565				
		01006				
		01047				
		01052				

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P01070	.100002	01066							
P00574	.11	00712	01055	01067	01074	01249			
P01036	.110								
P01075	.112								
P01155	.117								
P00403	.12								
P00523	.1200	00510							
P01041	.120								
P01043	.125								
P01045	.130	01054							
P00420	.14	00402							
P01050	.140	01042							
P01053	.145	01044							
P01056	.146								
P01063	.150	01040							
P00405	.16	00404							
P00610	.18	00603							
P00613	.20	00604	00607						
P01241	.200	00641							
P00620	.201								
P00637	.202	00617	00617						
P00642	.25								
P00644	.26								
P00651	.260	00630							
P00663	.262								
P00667	.270	00650							
P00713	.27	00643							
P00675	.272	00671							
P00706	.274								
P00712	.280	00674							
P00763	.30	00762							
P00773	.40	00771							
P00775	.50	00771	00772						
P00777	.60								
P01002	.70								
P01004	.80	01001							
P01007	.90	01006							
P01343	.ERASER.	00360	00363	00765	00767	00770	00770	01072	01073
		01237							
P00007	..100000	00364							
P00010	..100001	00373							
P00011	..100002	00377							
P00035	..100003	00507							
P00035	..100004	00523							
P00056	..100005	00533							
P00037	..100006	00541							
P00037	..100007	00640							
P00044	..100008	00670							
P00065	..100009	00673							
P00866	..100010	00761							
P00067	..100011	01000							
P00334	..100012	01266							
P00036	..1100	00514							
P00060	..111	00554							

SATS	ALCOUT	12/20/71	ED	0	PAGE NO.	12
P00070	..113					
P00105	..115					
P00231	..116					
P00262	..118					
P00302	..1180					
P00012	..13					
P00335	..7777					
P01376	J					
C00007	JCLASS					
C00006	JHCLASS					
C00010	JHYPE					
C00056	KOR					
C00113	KORR					
P00005	LDYNAM					
P00004	LHULTTST					
P00003	LYARGET					
C00013	M					
C00004	MSLTIME					
C00342	MULL					
C00000	MULTTGT					
C00003	MYCOMM					
C00000	MYFORNT					
C00000	MYIDENT					
C00002	MYLN8TH					
C00001	MYSECR					
C00344	N					
C00023	NALERT					
C00000	NAME					
C00016	NASMTYPE					
C00036	NBLN					
C00010	NENDRY					
C00022	NCLASS					
C00026	NCNTRY					
C00021	NCOMPLEX					
C00004	NCORR					
C00025	NCORTYPE					
C00005	NDBEN					
C00013	NDRGROUP					
C00020	NK					
P01377	NN					
C00347	NNFIX					
C00005	NPRINT					
C00015	NPAYLOAD					
C00006	NRECOVER					
C00007	NREF					
C00011	NREG					
C00003	NRTPT					
C00020	NTANKBAS					
C00024	NTOTS					
C00014	NTOTBASE					
C00012	NTYPE					
C00054	NUM					
		01105				
		01115				
		01146				
		01160				
		01203				
		00406				
		01275				
		01167				
		01334				
		00732				
		00730				
		00734				
		01024				
		01023				
		00653				
		00665				
		00752				
		01011				
		01041				
		01041				
		01132				
		00374				
		00374				
		00524				
		00524				
		00534				
		00534				
		00542				
		00542				
		01267				
		00526				
		00544				
		00755				
		00755				
		00714				
		00714				
		01220				
		01013				
		00757				
		00003				
		00016				
		01012				
		00616				
		00622				
		00625				
		00630				
		00633				
		00636				
		00642				
		00642				
		00754				
		00754				

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5.ATS	ALOCOUT	12/20/71	ED	0	PAGE NO.	14
X00030	TSK.	00552				
C00003	TSK	00722	01140			
P01320	UP00000.	00656	00701	00707	01015	01152
		01325		01334	01335	01336
P01333	UP00001.	01163	01327	01334	01335	01336
X00006	VAL0007	00353				
C00016	VO	01217				
C00040	VT					
C00151	VTD	00630	01031	01031		
C00012	VTD	01206				
C00050	WRTST					
P00640	WS00001.	00666	00666			
P00703	WS00002.	00711	00711			
P01021	WS00003.	01036				
P01155	WS00004.	01177	01177			
P01164	WS00005.	01171				
C01130	YIELD	00500				
	00417 SYMB-S					

```

SUBROUTINE ALOCOUT2
  CSUBR  ALOCOUT2 10CT71 *****
  C      RECEIVES AS INPUT FROM ALOCOUT 1 *****
  CUBE   STRKT01 25JANT1 *****
  COMMON/STRKT01/NAME,INDEX,DSIG,TSK,CNTRLC,FLG,JMCLASS,JCLASS,
  1JMTYPE,TLAT,TLONG,IATLOC,ITPREM,IDPEN,OCUT,DREC,IG,KORR,DLAT,
  2DLONG,TOA,RELVAL,ITFIX *****
  TYPE  INTEGER DSIG,TSK,CNTRLC,FLG *****
  CEND   STRKT01 *****
  DATA (LSTRK=23) *****
  DIMENSION STRK(23) *****
  EQUIVALENCE (STRK(1),NAME) *****
  CUBE   ITP *****
  C      COMMON/ITP/ITP *****
  C      ITP *****
  CEND   MYIDENT 15APRT1 *****
  CUBE   MYIDENT *****
  C      COMMON/MYIDENT/MYIDENT *****
  C      MYIDENT *****
  CEND   TWORD 15APRT1 *****
  CUBE   TWORD *****
  C      COMMON/TWORD/TWORD *****
  C      TWORD *****
  CEND   EQUIVALENCE (TWORD,ITWORD) *****
  CUBE   MYLABEL 15APRT1 *****
  C      COMMON/MYLABEL/MYFORMT,MYSECR,MYLNTH,MYCOMM(S) *****
  C      MYLABEL *****
  C      FILABEL *****
  C      COMMON/FILABEL/INIDENT,INUNNO,INDATE,INFORM,INSECR,INTIME,
  1INLNTH,INCOMM(S) *****
  C      FILABEL *****
  C      IFTPRNT *****
  C      COMMON/IFTPRNT/IFTPRNT(10) *****
  C      IFTPRNT *****
  C      SCRATCH *****
  C      COMMON/SCRATCH/SCRATCH *****
  C      SCRATCH *****
  C      COMMON/1/ITD1(4000),ITD1(900) *****
  C      COMMON/11/ITD2(4000),ITD2(900) *****
  C      COMMON/12/ITD3(4000) *****
  C      COMMON/13/ITD4(4000) *****
  C      COMMON/NGROUP/ISEG(900) *****
  C      ALOC *****
  C      COMMON/ALOC/INDPNPS,ITAPEN *****
  CUBE   *****

```

```

CEND      ALOC      25JAN71 *****
CUBE      KEYS      COMMON/KEYS/KEYT11,KEYT12,KEYT13,KEYT14,KEYT21,KEYT22,KEYT31,
1KEYT32,KEYT33,KEYT41,KEYT42,KEYT43,KEYT44,KEYT51,KEYT52,KEYT53,KEYT54,
2KEYW22,KEYW23,KEYW24,KEYW25 *****
CEND      KEYS      DATA (ITAPE=0), (INRECMAX=900)
          DIMENSION INWORD(2)
          DATA (INWORD=0,0)
          DATA (ITAPE1=5), (ITAPE2=6)
          DATA (INARG=4000)
          SET UP KEYS FOR ISET AND IPUT
          KEYT11 = KEYMAKE(2,9,15)
          KEYT12 = KEYMAKE(2,3,6)
          KEYT13 = KEYMAKE(2,0,3)
          KEYT14 = KEYMAKE(2,24,12)
          KEYT21 = KEYMAKE(2,24,24)
          KEYT22 = KEYMAKE(2,0,24)
          KEYT31 = KEYMAKE(2,36,6)
          KEYT32 = KEYMAKE(2,19,18)
          KEYT33 = KEYMAKE(2,0,18)
          KEYT41 = KEYMAKE(2,0,30)
          KEYT42 = KEYMAKE(2,39,12)
          KEYT43 = KEYMAKE(2,42,4)
          KEYW11 = KEYMAKE(2,30,18)
          KEYW12 = KEYMAKE(2,12,18)
          KEYW13 = KEYMAKE(2,0,12)
          KEYW21 = KEYMAKE(2,37,9)
          KEYW22 = KEYMAKE(2,31,6)
          KEYW23 = KEYMAKE(2,19,12)
          KEYW24 = KEYMAKE(2,1,18)
          KEYW25 = KEYMAKE(2,0,1)
          INITIALIZE VARIABLES
          4 CONTINUE
          ITP=ISCRATCH
          HYIDENT=7HNSCRATCH
          CALL SETREAD
          1 ITP=ISCRATCH $ INNO=0 $ IBEI=0 $ NEXT=0
          ICLR=40HARG
          DO 5 I=1,ICLR
          5 ITO(I)=0
          ICLR = INRECMAX
          DO 6 I=1,ICLR
          6 ISQ(I)=0
          ITO2(I) = 0
          IVO1(I)=0
          GO TO 10
          7 ICLR = INRECMAX
          DO 8 I=1,ICLR
          8 IVO2(I)=0
          DO 9 I=1,INRECMAX
          9 ISQ(I)=0
          NEXT = 0 $ ITP = ISCRATCH
          READ ONE RECORD FROM SCRATCH TAPE
          C

```

```

10 IF(NEXT.EQ.INRECKX) 40,11
11 CALL RDARRAY(STRK,LSTRK)
C   CHECK FOR EOT
C   IF(JMCLAS.EQ.3HEOT) 40,12
C   IF NEW INDEX, INCREMENT IBETA, STORE TOT DATA.
12 IF(INDEX.EG.INHOLD) 30,15
15 IBETA = IBETA + 1
   IF(IBETA.GT.MYAR) 60 TO 200
200 DECODE (5,200,DSIG)DSIG1
300 DECODE (2,300,TSK)TSK1
   DECODE (2,300,CNTRLC)CNTRLC1
   CALL IPUT(KEYT11,IBETA,INDEX,ITD1)
   CALL IPUT(KEYT12,IBETA,IATLOC,ITD1)
   CALL IPUT(KEYT13,IBETA,ITPREM,ITD1)
   CALL IPUT(KEYT14,IBETA,ISK1,ITD1)
   KTLAT=(TLAT*90.)+45000.**5 $ KTLONG=TLONG+45000.**5
   CALL IPUT(KEYT21,IBETA,KTLAT,ITD2)
   CALL IPUT(KEYT22,IBETA,KTLONG,ITD2)
   CALL IPUT(KEYT31,IBETA,IDPEN,ITD3)
   KDOUT=DOUT*10 $ KOREC=DREC*10
   CALL IPUT(KEYT32,IBETA,KDOUT,ITD3)
   CALL IPUT(KEYT33,IBETA,KOREC,ITD3)
   CALL IPUT(KEYT41,IBETA,DSIG1,ITD4)
   CALL IPUT(KEYT42,IBETA,CNTRLC1,ITD4)
   CALL IPUT(KEYT43,IBETA,FL6,ITD4)
   INHOLD=INDEX
30 NEXT=NEXT + 1
   KDLAT=DLAT*2.1+45000.**5 $ KDLONG=(DLONG*2.1)+45000.**5
   KTOA=(TOA*100.)+10
   KRVAL=RELVAL*1000
   CALL IPUT(KEYW11,NEXT,KDLAT,IMD1)
   CALL IPUT(KEYW12,NEXT,KDLONG,IMD1)
   CALL IPUT(KEYW13,NEXT,KTOA,IMD1)
   CALL IPUT(KEYW21,NEXT,KRVAL,IMD2)
   CALL IPUT(KEYW22,NEXT,IIFIX,IMD2)
   CALL IPUT(KEYW21,NEXT,IS,IMD2)
   CALL IPUT(KEYW22,NEXT,KORR,IMD2)
   CALL IPUT(KEYW23,NEXT,IBETA,IMD2)
   GO TO 10
40 CALL ORDER(IMD2,ISEQ,NEXT)
   CALL REORDER(ISEQ,NEXT,2,IMD1,IMD2,0,0,0,0,0)
C   INCOR=INDEX OF SORTED ARRAYS IN CORE, NREAD=INDEX OF ARRAYS ON FILES
C   INCOR=1 $ NREAD=0
C   ITAPE=FILE LAST (OR CURRENTLY BEING) WRITTEN ON, ITAPE=LUN OF ITAPE
C   IF (ITAPE=1) 42,44,46
C   FIRST SCRATCH FILE WRITTEN
C   42 CONTINUE
   ITAPE=1

```



```

ITAPER=ITAPE1
MYLNTH=40000
MYIDENT=THSCRATCH
ITP = ITAPER
CALL SETWRITE
ITAPER=ITAPE2
ITP=ITAPER
MYIDENT=THSCRATCH
MYLNTH = 40000
CALL SETWRITE
ITP=ITAPER
K=3 - ITAPE
GO TO 56

C
C ITAPER=FILE BEING READ FROM
C
44 ITAPE=2 S ITAPER=ITAPE2 S ITAPER=ITAPE1
GO TO 48
46 ITAPE=1 S ITAPER=ITAPE1 S ITAPER=ITAPE2
48 CONTINUE
ITP=ITAPER
MYIDENT=THSCRATCH
CALL SETREAD
MYLNTH=40000
ITP=ITAPER
MYIDENT=THSCRATCH
CALL SETWRITE
K=3 - ITAPE
NWDAP(ITAPE)=NEXT+NWDAP(K)
50 ITP=ITAPER
DO 52 I=1,2
CALL RDNWORD
52 INWD(I)=ITWORD S NREAD=NREAD+1
ITP=ITAPER
51 IF(INWD(2).LT.IWD2(INCR)) 53,62
53 DO 55 I=1,2
ITWORD=INWD(I)
55 CALL WRWORD
56 IF(NREAD.EQ.NWDAP(K)) 57,50
56 NWDAP(ITAPE)=NEXT+NWDAP(K)
57 DO 60 I=INCR,NEXT
DO 59 J=1,2
ITWORD = IWD1(I)
IF(J.EQ.2)ITWORD=IWD2(I)
59 CALL WRWORD
60 CONTINUE
GO TO 75
62 DO 64 I=1,2
ITWORD =IWD1(INCR)
IF(I.EQ.2)ITWORD=IWD2(INCR)
64 CALL WRWORD
INCR=INCR+1
IF(INCR.GT.NEXT) 66,51
66 NLEFT=NWDAP(K)-NREAD
NWD3=2*NLEFT
DO 67 I=1,2

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129000
129000
130000
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180000
181000

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ITWORD=INWORD(1)
67 CALL WRWORD
DO 70 I=1,NVDS
  ITP=ITAPER
  CALL RWWORD
  ITP=ITAPEW
70 CALL WRWORD
75 ITP=ITAPER S CALL TERMTAPE S ITP=ITAPEW S CALL TERMTAPE
  IF (JMCCLASS.EQ.3) MEOT) 100,Y
100 ITP=ISCRATCH S CALL TERMTAPE S INOWPNS=INWDTAP(ITAPE)
102 CALL STRKOUT
  PRINT 150, INOWPNS,IBETA
150 FORMAT(3H ALOCOUT PROCESSING COMPLETED ON .15.9H WEAPONS,.15.9H T
  TARGETS)
  CALL TIMEW(3)
  CALL TIMEW(0)
  RETURN
200 PRINT 201,MTARG
201 FORMAT(1H1/3H THE MAXIMUM NUMBER OF TARGET ELEMENTS AND COMPONENTS
  1 15.19H WAS BEEN EXCEEDED )
  CALL ABORT
  END

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182000
183000
184000
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5.4TS ALOCOUT2

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IDENT ALOCOUT2

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

ALOCOUT2	IDENT	ALOCOUT2
STRTST	01213	
ITP	00073	
MYIDENT	00027	
TWORD	00001	
MYLABEL	00001	
FLABEL	00010	
IFTPNT	00014	
SCRATCH	00012	
1	00001	
11	11444	
12	11444	
13	07640	
WGROUP	07640	
ALOC	01604	
KEYS	00002	
	00024	

EXTERNAL SYMBOLS

THENO.
Q1G10100
Q800ICT.
KEYNAME
SETREAD
ROARRAY
IPUT
ORDER
REORDER
SETWRITE
ROWORD
WYWORD
TEMTAPE
STAKOUT
TIMEWE
ABORT
DEC.
STM.
QNSINGL.

5.475 ALOCOUT2

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8

C00004 INSECR
C00005 INTIME
P00003 INWORD
X00007 IPUT

C00000 ISCRATCH
C00000 ISEO
P00010 ITAPE
P00012 ITAPE1
P00013 ITAPE2
P00173 ITAPER
C00001 ITAPEW

C00000 ITD1
C00000 ITD2
C00000 ITD3
C00000 ITD4
C00000 ITP

C00014 ITPREM
C00000 ITWORD

C07640 IND1

C07640 IND2

P00251 .1
P00333 .10
P01057 .100
P00353 .100001
P00354 .100002
P00756 .100003
P00761 .100004
P01000 .100005
P01003 .100006
P01066 .102
P00336 .11
P00344 .12
P00347 .15
P01111 .200
P00510 .30
P00243 .4
P00576 .40
P00016 .42
P00647 .44
P00654 .46
P00661 .48
P00264 .5
P00704 .50
P00722 .51
P00712 .52
P00726 .53
P00733 .55

00714	00722	00731	01021	00436	00442	00446	00462	00466	00472	00476
00404	00410	00414	00420	00551	00555	00561	00565	00571		
00502	00535	00541	00545	00330	00331	00331	00331	00331		
00243	00243	00251	00251	00600	00604	00604	00604	00604		
00275	00276	00324	00324	00655	00700	00702	00744	01063		
00613	00617	00645	00650							
00617	00652	00655								
00631	00650	00657	00661	00704	01031	01044				
00632	00653	00660	00625	00642	00642	00651	00651	00656	00656	00671
00620	00620	00625	00625	01035	01035	01050				
00671	00717	00720	01035	00417	00423					
00264	00265	00407	00413							
00441	00445	00471								
00451	00465	00501	00505							
00475	00501	00505								
00244	00244	00252	00252	00331	00332	00326	00326	00332	00333	00443
00643	00662	00662	00672	00672	00705	00705	00720	00721	01032	01032
01036	01036	01045	01045	01051	01051	01060	01060			
00417	00712	00731	00732	00753	00753	00760	00760	00775	00775	01002
00712	00712	01021	00315	00540	00544	00550	00565	00752	00752	00774
01002	00301	00314	00315							
00300	00301	00314	00315							
00774	00277	00312	00313	00554	00560	00564	00570	00574	00600	00606
00277	00277	00312	00313	00554	00560	00564	00570	00574	00600	00606
00723	00724	00757	00757	01001	01001					
00303	00575									
00352	00352									
00755										
00777										
00334										
00343										
00346										
00353										
00346										
00335	00343									
00615										
00614										
00615										
00653										
00740										
01011	01012									

5.4TS ALOCOUT2

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P00710	WS000005.	00715	
P00730	WS000006.	00736	
P00747	WS000007.	00767	00767
P00751	WS000010.	00764	
P00773	WS000011.	01006	
P01020	WS000012.	01026	
P01031	WS000013.	01043	01043

00315 SYMBOLS


```

SUBROUTINE COMPRESS (OPENTOL)
  CSUBR      COMPRESS 180CT71 *****
  CUSE       1      180CT71 *****
  C
  COMMON/1/X(150),Y(150),V(150),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),POEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,DUM(18),
  DATA (NUMMAX=30), (NJ=50)
  C
  CEND
  CUSE
  1      ISKIPDZ 25JAN71 *****
  COMMON/ISKIPDZ/ISKIPDZ
  CEND
  TYPE INTEGER OPENTOL
  C-----IF OPENTOL=1, TOLERANCES WILL BE OPENED, IF NECESSARY, TO CUT DOWN
  C THE NUMBER OF TARGETS TO 40
  C-----IF OPENTOL=0, TOLERANCES WILL NOT BE CHANGED
  DATA(NTRIES=0)
  NTRIES=NTRIES+OPENTOL
  TO RESET NTRIES TO ZERO WHEN OPENTOL =0
  C
  ITOL=0
  N=MIN(RADL,NJ)
  DTOL= RADL(N)/10.
  DTOL= DTOL**2
  RADTOL= .05
  NJM= NJ-1
  IF (NJ.LT.2) 9,100
  100 CONTINUE
  DO 1 J=1,NJM
  J1= J+1
  NRADLJ= 1
  DO 2 K=J1,NJ
  11 CONTINUE
  D2= (X(J)-X(K))**2 + (Y(J)-Y(K))**2
  IF (D2.LE.DTOL) 3,2
  3 IF (ABS((RADL(J)-RADL(K))/(RADL(J)+RADL(K))),LT,RADLTOL) 4,2
  4 VI(J)= VI(J)+VI(K)
  RADL(J)= (NRADLJ+RADL(J)+RADL(K))/(NRADLJ+1)
  NRADLJ= NRADLJ+1
  DO 5 I=1,NI
  5 VTOA(J,I)=VTOA(J,I)+VTOA(K,I)
  DO 6 M=K,NJM
  X(M)= X(M+1)
  Y(M)= Y(M+1)
  VI(M)= VI(M+1)
  DO 12 I=1,NI
  12 VTOA(M,I)= VTOA(M+1,I)
  6 RADL(M)= RADL(M+1)
  NJ= NJ-1
  NJM= NJ-1
  IF (K.LE.NJ) 11,1
  2 CONTINUE
  1 CONTINUE
  IF (OPENTOL.EQ.1) 20,9
  20 CONTINUE
  20 IF (NJ.LE.40) 7,8

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FTN5.5

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9 ITOL=ITOL+1
  DTOL= 2.*DTOL
  RADTOL= 2.*RADTOL
  GO TO 160
7 IF (ITOL.EQ.0) 9,10
9 RETURN
10 PRINT 1000,ITOL
1000 FORMAT(23H0000TOLERANCES DOUBLED *13,11,69TIMES IN SUBROUTINE COM
1PRESS TO REDUCE NUMBER OF TARGET POINTS TO 40./1X,7HTARGET *AB,13H
2 INDEX NUMBER,110//)
  NENTRIES= NENTRIES+1
  IF (NENTRIES.GE.201200.201
200 ISKIPD62=1
201 CONTINUE
  RETURN
  END
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
58000
59000
60000
61000
62000
63000

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1746

5.4TS COMPRESS

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAME

COMPRESS
1
ISKIP00Z

EXTERNAL SYMBOLS

THEND.
ORODICT.
IMIN
STH.
QNSINGL.

IDENT

00445
00042
21444
00001

COMPRESS

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ED

0

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5.ATS COMPRESS

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P00366 BEGIN.	00402	00410	00414				
P00302 CMVRT1.	00267						
P00042 COMPRESS	00042						
P00431 COUNT.	00165	00167	00211	00212			
P00006 CRPAT.	00272						
P00432 D2	00115	00116					
P00433 D2TOL	00061	00062	00062	00116	00253	00254	
P00001 DICT.	00044	00053	00264	00271	00367	00370	
C11422 DUM1							
P00403 ENDING.	00045	00261	00300	00364	00365	00365	00366
C11266 ERDEL							
P00000 EXIT.	00406						
P00006 FORMAT.							
P00047 P000001.	00376	00377					
P00244 P000002.	00400	00401					
P00417 GETPL.	00371						
P00407 GETPU.	00376	00413					
P00272 0000000.	00262						
P00434 I	00161	00205	00342				
X00003 IMIN	00052						
P00303 IN000004.	00166	00306	00316	00332	00346		
P00304 IN000005.	00166	00320	00330	00333	00347		
P00305 IN000006.	00212	00334	00350	00352	00362		
P00364 INITIAL:	00045						
C00000 ISKIP082	00276	00277					
P00435 ITOL	00051	00251	00252	00257	00266		
P00072 .100	00070	00070	00256				
P00240 .1	00232						
P00262 .10	00260						
P00104 .11	00232	00233					
P00213 .12							
P00234 .2	00117	00134	00135				
P00246 .20							
P00276 .200	00274						
P00300 .201	00275						
P00120 .3	00117						
P00136 .4							
P00170 .5							
P00216 .6							
P00257 .7							
P00751 .8	00247	00250					
P00261 .9	00250						
P00420 .ERASER.	00071	00243	00111	00114	00115	00131	00132
	00110	00111	00154	00155	00124	00131	00132
	00150	00154					
	00285	00076	00104	00120	00240	00313	
P00006 .1000	00073	00073					
P00436 J	00077	00101					
P00437 J1	00101	00106	00122	00127	00140	00234	00235
P00440 K	00055	00057	00175	00200	00221	00234	00235
P00441 M							
P00004 MJ	00046	00050	00272	00273			
P00005 NENTRIES	00163	00163	00207	00207			
C11420 NI	00054	00064	00064	00066	00057	00225	00231
C11421 NJ	00236	00246			00225	00226	00231
							00236

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```

FUNCTION CUMINV(Z)
  CSUBR      CUMINV  11/04/68 *****
  DIMENSION A(3),B(3)
  DATA ((A(I),I=1,3),2.515517,.802853,.010328)
  DATA ((B(I),I=1,3),1.432786,.189269,.001308)
  IF(Z<=.5)2,1,1
  1 X=1.0-Z
  2 X=Z
  3 V=SQRT((LOG(1.0/(1-X))))
  SUMN=A(1)+V*(A(2)+A(3)*V)
  SUMD=1.0-V*(B(1)+V*(B(2)+B(3)*V))
  ANS=V-SUMN/SUMD
  IF(Z<=.5)4,5,5
  4 CUMINV=ANS
  RETURN
  5 CUMINV=ANS
  END

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S.4TS CUMINV 12/29/71 ED 0 PAGE NO. 2

CUMINV

IDENT

00132
00011

PROGRAM LENGTH
ENTRY POINTS
EXTERNAL SYMBOLS

CUMINV

0000ICT.
SCRTF
LOGF

P00003 A	00011	00037	00040	00041
P00125 ANS	00050	00054	00056	
P00006 B	00011	00042	00043	00044
P00061 BEGIN.	00103	00112	00116	
P00011 CUMINV	00011			
P00001 DICT.	00013	00033	00036	00065
P00104 ENDING.	00014	00055	00057	00061
P00000 EXIT.	00110			
P00015 P00001.	00073	00074		
P00021 P00002.	00075	00076		
P00024 P00003.	00077	00100		
P00050 P00004.	00101	00102		
P00121 GETPL.	00066			
P00111 GETPU.	00071	00115		
P00061 INITIAL.	00014			
P00020 .1	00017			
P00024 .2	00017			
P00026 .3	00023			
P00054 .4	00053			
P00056 .5	00052			
P00122 .ERASER.	00027	00030	00031	00034
X00003 LOGP	00032			
P00103 P00002.	00012			
X00001 QSDICT.	00000			
X00002 SQRTF	00035			
P00126 SUMD	00046			
P00127 SUMN	00042			
P00130 V	00037			
P00060 VALUE.	00055			
P00131 X	00022			
P00011 Z	00015			
0003Y SYMBOLS				
			00041	00043
			00044	00045
			00047	00047
			00046	
			00040	
			00057	
			00025	
			00026	
			00024	
			00021	
			00027	
			00051	


```

SUBROUTINE DOZSEL
  CSUBR DOZSEL 180CT71
  CUSE 1 10CT71
  C
  COMMON/1/X(50),Y(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ENDEL(30),YDSEL(30),
  2 VESC(30),NI,NJ,CUMI(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  CEND 1 *****
  DATA (JREAD=1)
  DATA (EPSI=1,E=7),(EPS2=1,E=10)
  C-----IFLAG=1 (NO PRINTS, ALL WEAPONS ARE ASSIGNED TO (0,0) AND EXIT)
  C-----IFLAG=0 (NO PRINTS)
  C-----IFLAG=1 (INITIAL PRINT OF INPUT, PLUS STATE PRINT AFTER LAYDOWN
  C-----IFLAG=2 (ALL IFLAG=1 PRINTS PLUS STATE PRINT AT EACH ITERATION
  C-----IFLAG=1 AND AGAIN AFTER FINDMIN)
  C-----IFLAG=2 (ALL IFLAG=1 PRINTS PLUS STATE PRINT AT EACH ITERATION
  C-----IFLAG=1 WILL CAUSE DOZSEL TO SKIP FINDMIN
  C-----IFLAG=2 WILL CAUSE THAT NO (AT MOST) OF ITERATIONS IN
  C-----FINDMIN
  C
  DIMENSION XX(60),XG(60)
  IF (JREAD.EQ.1) 45,41
  40 JREAD=0
  READ 2000, IFLAG,IMAX
  2000 FORMAT(2I10)
  41 CONTINUE
  1006 DO 5 I=1,NI
  X(I)= 0.
  5 Y(I)= 0.
  RETURN
  1009 CONTINUE
  ICOUNT=0
  DO 1 I=1,NI
  DO 2 J=1,NJ
  2 S(J,I)=1.
  1 CONTINUE
  CALL VAL(VESCTOT)
  DO 30 I=1,NI
  DVALMAX=0.
  DO 20 J=1,NJ
  VALTEST=VHARG(I,XG(J),Y0(J))
  IF VALTEST=0VALMAX) 20,10,10
  10 DVALMAX=VALTEST
  J=J
  20 CONTINUE
  X(I)=X0(JT) 5 Y(I)=Y0(JT)
  CALL MOVE(I,XG(JT),Y0(JT))
  CALL VAL(VESCTOT)
  30 CONTINUE
  DO 3 I=1,NI
  XG(2*I-1)=X(I)
  XG(2*I)= Y(I)
  3 CONTINUE

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1064 IF (IFLAG.EE.1) 1004,1003
      CONTINUE
      CALL SEEINPUT
      CALL SEECALC (VSCOTOT,XG)
1003 CONTINUE
      IF (INJLE.1) 1005,1010
1010 CONTINUE
      IF (IMAX.LE.0) 1005,1011
1011 CONTINUE
      CALL PERTBLD(XG)
      IFLAG=IFLAG
1012 CONTINUE
      CALL FINDMIN(XG,2*NI,IMAX,EP51,EP52,XX,FMIN,IFLAG1)
      DO 4 I=1,NI
        X(I)=XX(2*1-1)
        Y(I)=XX(2*1)
      4 CONTINUE
      IF (IFLAG1.LE.1) 1006,1007
1006 CONTINUE
      CALL SEECALC (FMIN,XX)
1005 CONTINUE
      CALL TIMEW(1)
1007 CONTINUE
      IF (ICOUNT.LT.1) 200,130
200 CONTINUE
      VALPTST=0.
      VALADDL=0.
      ITST=0
      JTEST=3
      DO 115 I=1, N2
        DO 110 J=1, N1
          VALPTST=VMARG(I,XO(J),YO(J))
          IF (VALPTST=VALADDL) 110,110,100
100 ITST=I
      JTEST=J
      VALADDL=VALPTST
110 CONTINUE
115 CONTINUE
      IF (ITST) 130,130,120
120 X(ITST)=XO(JTEST) S Y(ITST)=YO(JTEST)
      CALL MOVE(ITST,XO(JTEST),YO(JTEST))
      DO 122 I=1,NI
        X(2*I-1)=X(I1)
        X(2*I)=Y(I1)
      122 CONTINUE
      IF (IFLAG.EE.1) 123,127
123 CONTINUE
      PRINT 125,ITEST,JTEST,XO(JTEST),YO(JTEST)
125 FORMAT (1M0,4SM)
      C 14,34H IS PLACED ON TARGET POINT NUMBER ,14/1X,
      C 16H LOCATED AT X0 = ,F9.6,7H, Y0 = ,F9.6//
127 CONTINUE
      ICOUNT=ICOUNT+1
      GO TO 1012
130 CONTINUE
      RETURN

```

53000
 51000
 52000
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 54000
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 93000
 94000
 95000
 96000
 97000
 98000
 99000
 100000
 101000
 102000
 103000
 104000
 105000

FTNS.5

END

12/20/71

PAGE NO. 3

105000

5.4TS 00ZSEL

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ED

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00ZSEL

IDENT

00731
00240
11444

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00ZSEL

EXTERNAL SYMBOLS

1

THEND.
QSDOTCT.
VAL
VMARG
MOVE
SEEINPUT
SEECALC
PERTBLD
FINDMIN
TIMEHE
TSH.
STH.
QMSINGL.

5.473	007SEL	12/20/71	ED	0	PAGE NO.	5
P00700	BEGIN.	00701	00255	00415	00420	00421
P00631	CHWRT1.	00254	00271	00313	00341	00342
P00710	COUNT.	00276	00274	00576		
P00200	CRPMT.	00261	00624			
P00240	007SEL	00240				
P00601	DICT.	00242	00252	00260	00325	00372
		00500	00503	00533	00565	00623
C11422	DUM1					
P00711	DVALMAX	00334	00352	00355		
P00702	ENDING.	00243	00261	00300	00627	00701
P00176	EPS1	00454				
P00177	EPS2	00455				
C11264	ENDEL					
P00000	EXIT.	00703				
X00011	FINDMIN	00451				
P00712	FMIN	00456	00501			
P00200	FORMAT.					
P00261	0000000.	00250				
P00624	0000001.	00610				
P00713	I	00263	00272	00303	00320	00330
		00457	00464	00515	00534	00540
P00714	ICOUNT	00302	00505	00624	00625	
P00715	IFLAG	00255	00262	00423	00444	00605
P00716	IFLAG1	00445	00456	00474		
P00717	II	00570	00575	00673		
P00720	IMAX	00256	00436	00454		
P00432	IN00002.	00314	00636	00651	00653	
P00633	IN00005.	00413	00464	00635	00647	
P00634	IN00010.	00575	00465	00676		
P00700	INITIAL.	00243				
P00721	ITEST	00513	00541	00552	00556	00614
P00320	.1					
P00354	.10	00353				
P00340	.100					
P00433	.1003	00425				
P00426	.1004	00424				
P00502	.1005	00434	00435	00437	00440	
P00477	.1006	00475				
P00505	.1007	00476				
P00264	.1008					
P00301	.1009	00263				
P00436	.1010	00435				
P00441	.1011	00440				
P00446	.1012	00626				
P00544	.110	00537	00537			
P00646	.115					
P00554	.120					
P00603	.122					
P00410	.123	00606				
P00624	.127	00607				
P00627	.130	00506	00553	00553		
P00357	.20	00353				
P00510	.200					

SATS

00ZSEL

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ED

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P00315 .2	00245	00342	00355	00360	00521	00526	00541	00545	00560
P00401 .30	00450								
P00421 .3	00613								
P00472 .4	00253								
P00246 .40	00344								
P00262 .41	00367								
P00275 .5	00530								
P00704 .ERASER.	00562								
P00203 .125	00307								
P00200 .2000	00244								
P00350 .200001.	00356								
P00373 .200002.	00514								
P00534 .200003.	00554								
P00366 .200004.	00371								
P00722 JREAD	00267								
P00723 JT	00461								
P00724 JTEST	00311								
P00174 MJ	00371								
X00005 MOVE	00267								
C11420 NI	00461								
C11421 NJ	00311								
P00173 NUMMAX	00641								
P00635 P00000.U	00670								
P00653 P00001.U	00670								
P00665 P00002.U	00670								
C11230 PDEL	00441								
X00010 PENTBLD	00000								
X00002 QSDICT.	00630								
X00015 QNSINGL.	00630								
C00226 RADL	00316								
C03244 S	00430								
X00007 SEECALC	00426								
X00006 SEINPUT	00611								
X00014 SYN.	00257								
X00001 THEND.	00502								
X00012 TIMEHE	00270								
P00300 TS00001.	00305								
P00322 TS00002.	00312								
P00320 TS00003.	00332								
P00403 TS00004.	00340								
P00361 TS00005.	00411								
P00423 TS00006.	00462								
P00474 TS00007.	00517								
P00550 TS00010.	00524								
P00546 TS00011.	00573								
P00605 TS00012.	00251								
X00013 TSH.	00266								
P00643 UP00000.	00644								
P00657 UP00001.	00310								
P00672 UP00002.	00571								
X00003 VAL	00324								

S.4TS	06ZSEL	12/20/71	ED	0	PAGE NO.	7
P00725	VALADDL	00512	00536	00543		
P00726	VALFTST	00511	00536	00542		
P00727	VALTEST	00352	00354			
C04200	VEFF					
C11362	VESC					
P00730	VESCTOT	00326	00400	00432		
C00144	VI					
X00004	VHAR0	00346	00532			
C00310	VTOA					
P00273	WS00001.	00277	00323			
P00304	WS00002.	00323				
P00315	WS00003.	00317	00404			
P00333	WS00004.	00404				
P00343	WS00005.	00360				
P00415	WS00006.	00422				
P00466	WS00007.	00473				
P00520	WS00010.	00551	00551			
P00527	WS00011.	00545				
P00577	WS00012.	00604				
C00000	X0	00343	00350	00362	00366	00373
		00566	00617	00620	00415	00527
C11134	X	00273	00274	00364	00415	00467
		00577				
P00077	X0	00416	00420	00443	00453	00600
P00003	XX	00455	00466	00470	00501	00602
C00062	Y0	00364	00351	00365	00374	00530
C11172	Y	00275	00276	00417	00417	00471
C11324	Y0SCL			00365	00417	00471
	00201 SYMBOLS					
					00555	00561
					00557	00577
					00562	00621
					00601	00601

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1

```

CSUBR      FUNCTION ERGOT1(I)
      ERGOT1= 24MAY71 *****
      DIMENSION X(10),WIZ(3)
      DATA(WIZ,38198801,.26784919,.20871215)
      DATA(X(1),1=1,10)=10(10,0))
      EQUIVALENCE(K,XK1)
      RETURNS NEXT NUMBER IN MOST UNIFORM ERGODIC
      SERIES(BETWEEN ZERO AND ONE), UP TO 10
      SERIES(I=1:10) CAN BE RUN IN PARALLEL,
      (TO AVOID A FIXED PHASE RELATION BETWEEN
      TWO SERIES, ONE CAN CALL ERGOT2(I) OR
      ERGOT3(I) TO GIVE LESS UNIFORM BUT
      NON-COMENSURATE SERIES.)
      L=1 $ GO TO 10
      ENTRY ERGOT2
      L=2 $ GO TO 10
      ENTRY ERGOT3
      L=3
      10 J=I $ IF(J.GT.10)75,12
      12 X(J)=X(J)+WIZ(L)
      ERGOT1=MOD(X(J),1.)
      RETURN
      75 PRINT 80
      80 FORMAT(1BH BAD CALL ON ERGOT)
      RETURN
      END

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1000
22000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
16000
17000
18000
19000
20000
21000
22000
23000
24000
25000

5.ATS ERGOT1

PROGRAM LENGTH
ENTRY POINTS

ERGOT1
ERGOT2
ERGOT3

EXTERNAL SYMBOLS

THENG.
QSDICT.
MODF
STH.

IDENT

00233
00027
00033
00043

ERGOT1

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2

5.4TS ER00T1

3

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P00075	BEGIN.	00111	00120	00124			
P00021	CREAT.	00073					
P00001	DICT.	00031	00037	00045	00063	00067	00072
P00112	ENDING.	00032	00040	00046	00064	00073	00075
P00027	ER00T1	00027					
P00035	ER00T2	00035					
P00043	ER00T3	00043					
P00000	EXIT.	00116					
P00021	FORMAT.						
P00051	PR00001.	00107	00110				
P00127	GETPL.	00102					
P00117	GETPU.	00105	00123				
P00073	GG00000.	00065					
P00021	I	00051					
P00075	INITIAL.	00032	00040	00046			
P00051	.10	00034	00042				
P00056	.12	00054	00054				
P00065	.75	00055					
P00021	.80	00070					
P00151	J	00052	00053	00055			
P00020	K						
P00132	L	00034	00042	00050	00057		
X00003	MODF	00062					
P00111	PF00002.	00106					
X00002	Q0001CT.	00000	00030	00036	00044		
X00004	SYM.	00066					
X00001	THEND.	00071					
P00074	VALUE.	00064	00115				
P00015	WIZ	00021	00060				
P00003	X	00021	00057	00060			
P00020	XK						
	00037 SYMBOLS						

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```

SUBROUTINE FILTGT
  CSUBR      FILTGT      15APR71 *****
  C          FILL /TARGET/ FROM/DYNAMIC/ FOR USE WHEN MULTIPLE TARGET IS A
  C          CITY AND WILL BE PROCESSED AS COMPLEX
  C          DYNAMIC      15APR71 *****
  C
  COMMON/DYNAMIC/TGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,TOTMULT,
  1TGTLAT,TGTLONG,TGTRAD,VTO,M,H(2),VO(2),NK,PVAL(3),TAU(3),ICLASS,
  2ICLASS,INTYPE,TARDEF,INDPEN,DISTOP,DISTOP,NBLN,CMULT,VTO,
  3TGTWAT(3),PAYOFF,COST,PHOFIT,DPROFIT,INTEST,IHEOT,NUNFIX,ITOT,NUM,
  4IG(30),MCRR(30),VTO(30),PEN(30),TOARR(30)
  TYPE INTEGER TGTNAME,DESIG,TASK,CNTRYLOC,"LAG,TARDEF
  DATA(LDYNAM=9), (IHEOT=0)

  C          DYNAMIC *****
  C          TARGET      15APR71 *****
  C
  COMMON/TARGET/TARGET(29)
  DATA (LTARGET = 29)

  C          TARGET *****
  C
  DIMENSION ITARGET(29)
  EQUIVALENCE (TARGET,ITARGET)
  TARGET(1)=TGTNAME
  ITARGET(2)=INDEXNO
  TARGET(3)=DESIG
  TARGET(4)=TASK
  TARGET(5)=CNTRYLOC
  TARGET(6)=FLAG
  TARGET(7)=TOTMULT
  TARGET(8)=TGTLAT
  TARGET(9)=TGTLONG
  TARGET(10)=TGTRAD
  TARGET(11)=VTO
  ITARGET(12)=M
  TARGET(13)=M(1)
  TARGET(14)=M(2)
  TARGET(15)=VO(1)/VTO
  ITARGET(16)=NK
  TARGET(17)=PVAL(1)
  TARGET(18)=PVAL(2)
  TARGET(19)=TAU(1)
  TARGET(20)=TAU(2)
  TARGET(21)=TAU(3)
  TARGET(22)=ICLASS
  ITARGET(23)=ICLASS
  TARGET(24)=INTYPE
  RETURN
  END

```

5.4TS FILTGT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

FILTGT

DYNAMIC
TARGET

EXTERNAL SYMBOLS

00125
00005

00303
00035

IDENT

FILTGT

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ED

0

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2

5.4TS

PILTGT

C00012 VTO

C00050 WRTST

00065 SYMBOLS

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ED

0

PAGE NO.

4

```

SUBROUTINE FINDMIN(X0,N,IMAX,E1,E2,X,F1,IFLAG)
  CSUBR  FINDMIN 10CT71 *****
  C      X0 = INITIAL GUESS AT MIN POSN          INPUT *****
  C      N = NUMBER OF VARIABLES                INPUT
  C      IMAX = MAX NUMBER OF ITERATIONS         INPUT
  C      E1 = TOLERANCE                         INPUT
  C      E2 = TOLERANCE                         INPUT
  C      F1 = MIN POSN AS DETERMINED BY FINDMIN  OUTPUT
  C      IFLAG = 0 IF CONVERGED, -1 IF NOT, -2 IF POOR GRADIENT COMPONENT(S).
  C      IFLAG SET OR 0 IN INPUT ALLOWS ADD PRINT OUTPUT AT EA ITER
  C      DEFINE TWO SUBROUTINES, GRADF(X,G), F2BMIN(X,F)
  C      DIMENSION X0(60),X(60)
  C      COMMON/11/H(60,60),X1(60),X2(60),X3(60),X4(60),Y(60),DUMX(700)
  C      1 S(60)=G0(60),G(60)=DX(60),X4(60)=Y(60),DUMX(700)
  C      DO 1 I=1,N
  C      DO 2 J=1,N
  C      2 H(I,J)=0.
  C      H(I,I)=1.
  C      1 X(I)=X0(I)
  C      ITER=0
  C      CALL F2BMIN(X,F1)
  C      FC=F1
  C      CALL GRADF(X,G)
  C      DO 3 I=1,N
  C      S(I)=0.,S G(I)=G(I)
  C      DO 4 J=1,N
  C      4 S(I)=S(I)-H(I,J)*G(J)
  C      3 CONTINUE
  C
  C      IF (IFLAG.EQ.-2) .AND..401
  C      400 CALL SEECALC(F1,X)
  C      401 CONTINUE
  C      IF (IFLAG) 301,301,300
  C      300 CONTINUE
  C
  C      PRINT 2000
  C      2000 FORMAT(20X, 2H X,20X,2H G,20X,2H S,20X, 4H SIG,20X,2H Y //)
  C      DO 300 I=1,N
  C      PRINT 2001, X(I),G(I),S(I),SIG(I),Y(I)
  C      2001 CONTINUE
  C      2001 FORMAT(15X,F13.8,X,F13.8,X,F13.8,X,F13.8,X,F13.8,X,F13.8//)
  C      PRINT 2002
  C      2002 FORMAT(/ / 43X, 9H H MATRIX //)
  C      DO 300 I=1,N
  C      3001 PRINT 2003, (H(I,J),J=1,N)
  C      2003 FORMAT(1X,7(F13.6,2X))
  C      PRINT 2006,F1,ITER
  C      2006 FORMAT(/1X,16H F1 AT ABOVE X = E13.5,10X, 6H ITER=13//)
  C
  C      301 CONTINUE
  C      900TS=0.
  C      DO 5 I=1,N
  C      5 900TS=900TS+G(I)*S(I)
  C      IF (900TS) 6,7,6
  C      7 900TS=F1

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```

6 CONTINUE
  DO 8 J=1,N
    DX(J)= (-ABS(F1)/600TS)*S(J)
    X1(J)= X(J)
    K=1
  IF (IFLAG) 303,303,302
302 CONTINUE
  C
  PRINT 2007,6DOTS
  2007 FORMAT(/ / 2X, 8H 6DOTS = E13.5 //)
  PRINT 2008
  2008 FORMAT(/ / 2X,11H INITIAL DX //)
  PRINT 2009, (DX(J),J=1,N)
  2009 FORMAT(1X, 7(F13.6,2X))
  C
  303 CONTINUE
    DO 10 J=1,N
      X2(J)= X1(J)+ DX(J)
      CALL F28MIN(X2,F2)
      IF (IFLAG) 305,305,304
    304 CONTINUE
  C
  PRINT 2010,F2
  2010 FORMAT(/ / 20X, 4H F2= E13.5 //)
  C
  305 CONTINUE
    IF (F2,6E,F1) 20,11
    DO 12 J=1,N
      DX(J)= 2*DX(J)
      X3(J)= X2(J)+ DX(J)
      CALL F28MIN(X3,F3)
      IF (IFLAG) 307,307,306
    306 CONTINUE
  C
  PRINT 2011,F3
  2011 FORMAT(/ / 20X, 4H F3= E13.5 //)
  C
  307 CONTINUE
    IF (F3,LT,F2) 13,30
    F1=F2
    F2=F3
    DO 14 J=1,N
      X1(J)= X2(J)
      X2(J)= X3(J)
      GO TO 11
    20 F3= F2
    DO 21 J=1,N
      X3(J)= X2(J)
      X2(J)= X1(J)+ DX(J)/2.
      21 CALL F28MIN(X2,F2)
      22 IF (F2,LE,F3,AND,F2,LE,F1) 30,41
      30 SUM2= 0.
      SUM3= 0.
      SMAG= 0.
      DO 31 J=1,N
        SUM2= SUM2 + (X2(J)-X1(J))**2

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100000
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102000
103000
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105000
106000
107000
108000
109000
110000
111000


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SUM3= SUM3 + (X3(J)-X1(J))**2
31 SMAG= SMAG + (S(J))**2
SUM2= SORTF(SUM2)
SUM3= SORTF(SUM3)
SMAG= SORTF(SMAG)
Y2= SUM2/SMAG
Y3= SUM3/SMAG
SMALLA= (Y2*(F3-F1)-Y3*(F2-F1))/(Y3*Y2*(Y3*Y2))
SMALLB= (F2-F1-SMALLA*Y2*Y2)/Y2
C=.5*SMALLB/SMALLA
DO 32 J=1,N
  DX(J) = C*S(J)
32 X4(J)= X1(J)+ DX(J)
  CALL F28MIN(X4,F4)
  IF (IFLAG) 309,309,308
308 CONTINUE
      C          DEBUG PRINT FIVE *****
      PRINT 2012
      2012 FORMAT(// 40X,22H PARABOLIC FIT VALUES //)
      PRINT 2013,SMAG,Y2,Y3,SMALLA,SMALLB,C
      2013 FORMAT(1X,5HSMAG=E12.4,2X,3HY2=E12.4,2X,3HY3=E12.4,2X,2HSMALLB=E12.4,
        X2X,2HB=E12.4,2X,2HCB=E12.4//)
      PRINT 2014,F1,F2,F3,F4
      2014 FORMAT(10X,3HF1=E13.5, 5X,3HF2=E13.5,9X,3HF3=E13.5,5X,3HF4=E13.5
        X//)
C          END DEBUG PRINT FIVE*****
309 CONTINUE
  IF (F4.LE.F1.AND.F4.LE.F2) 33,36
33 F1= F4
  DO 34 J=1,N
34 SIG(J)= X4(J)-X(J)
  GO TO 50
36 IF (F1=F2) 37,37,39
37 DO 38 J=1,N
38 SIG(J)= X1(J)-X(J)
  GO TO 50
39 F1=F2
  DO 40 J=1,N
40 SIG(J)= X2(J)-X(J)
  GO TO 50
41 K= K+1
  DO 42 J=1,N
42 DX(J)= DX(J)/10.
  IF (K.LE.6) 9,100
100 CONTINUE
  IFLAG=-2
  RETURN
50 DO 51 J=1,N
51 X(J)= X(J)+ SIG(J)
  DO 52 J=1,N
  IF (SIG(I).LE.(E1*ABS(FX0(I)))) 52,60
52 CONTINUE
  IF (SMAG.LE.(E2*ABS(F0))) 53,60
53 RETURN
60 IF (ITER.LT.IMAX) 61,54
54 CONTINUE

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```

IFLAG=1
RETURN
61 CALL GRADF(X,8)
DO 62 J=1,N
62 Y(J)=G(J)=G0(J)
SDOTY=0.
DO 63 J=1,N
SDOTY=SDOTY + SIG(J)*Y(J)
X4(J)=0.
X3(J)=0.
X2(J)=0.
63 X1(J)=0.
IF (SDOTY.EQ.0.) 71,66
64 DO 64 I=1,N
DO 65 J=1,N
X4(I)=X4(I) -M(I,J)*Y(J)
65 X3(I)=X3(I) +M(J,I)*Y(J)
64 CONTINUE
YHY=0.
DO 67 J=1,N
67 YHY=YHY + Y(J)*X4(J)
IF (YHY.EQ.0.) 71,68
68 DO 68 I=1,N
DO 70 J=1,N
H=H + A * 8
70 H(I,J)=H(I,J) + SIG(I)*SIG(J)/SDOTY + X4(I)*X3(J)/YHY
69 CONTINUE
GO TO 83
71 DO 72 I=1,N
DO 73 J=1,N
72 H(I,J)=0.
73 H(I,J)=0.
72 M(I,I)=1.
83 ITER=ITER + 1
GO TO 200
END

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168000
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197000
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200000
201000
202000

```

5.4TS FINDMIN

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES
EXTERNAL SYMBOLS
THEND.
QBODICT.
F28MIN
GRADF
SEECALC
SORTF
STH.
QMSINGL.

FINDMIN

11

02007
00234

11444

IDENT

FINDMIN

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ED

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5.4TS	FINDMIN	12/20/71	ED	0	PAGE NO.	6				
P01466	BEGIN.	01742	01749	00365	00420	00440	00442	00516	00541	00575
P01763	C	00775	01004	01035	01036	01037	01047	01051	01052	01053
P01426	CNVRT1.	00360	00362	00363	00364	00365	00366	00367	00368	00369
P01764	COUNT.	00633	01032	00316	00320	00321	00322	00323	00324	00325
P00003	CRFMT.	00251	00252	00253	00254	00255	00256	00257	00258	00259
P00001	DICT.	00612	00651	00652	00653	00654	00655	00656	00657	00658
C10150	DUMX	01113	01114	01115	01116	01117	01118	01119	01120	01121
C07464	EX	01253	01302	01304	01331	01332	01333	01334	01335	01336
C00003	E1	00346	00374	00402	00433	00445	00455	00460	00461	00462
P01735	ENDING.	01042	01056	00342	00343	00344	00345	00346	00347	00348
P01765	F0	00236	00273	00300	00313	00329	00329	00330	00331	00332
P00003	F1	00426	00435	00444	00445	00446	00447	00448	00449	00450
P01766	F2	00577	00622	00630	00635	00635	00636	00637	00638	00639
X00003	F25MIN	01027	01041	01044	01055	01230	01471	01472	01473	01474
P01767	F3	00501	00540	00540	00560	00560	00561	00562	00563	00564
P01770	F4	01006	01010	01130	01150	01152	01152	01152	01152	01152
P00003	FORMAT.	00216	00216	00216	00216	00216	00216	00216	00216	00216
P00247	FP00001.	00274	00275	00275	00275	00275	00275	00275	00275	00275
P00263	FP00002.	00772	01046	01057	01065	01102	01123	01123	01123	01123
P00266	FP00004.	00565	00574	00600	00637	00641	00644	00644	00644	00644
P00274	FP00005.	00771	01050	01062	01103	01122	01122	01122	01122	01122
P00275	FP00006.	00272	00563	00621	00700	01012	00704	00704	00704	00704
P00301	FP00007.	01014	01053	01056	01061	01061	01061	01061	01061	01061
P00314	FP00010.	00234	01507	01507	01507	01507	01507	01507	01507	01507
P00327	FP00011.	01506	01507	01507	01507	01507	01507	01507	01507	01507
P00331	FP00012.	01500	01501	01501	01501	01501	01501	01501	01501	01501
P00335	FP00013.	01625	01626	01626	01626	01626	01626	01626	01626	01626
P00336	FP00014.	01510	01511	01511	01511	01511	01511	01511	01511	01511
P00357	FP00015.	01623	01707	01655	01656	01656	01656	01656	01656	01656
P00372	FP00016.	01624	01624	01624	01624	01624	01624	01624	01624	01624
P00423	FP00017.	01512	01513	01513	01513	01513	01513	01513	01513	01513
P00431	FP00020.	01514	01515	01515	01515	01515	01515	01515	01515	01515
P00437	FP00021.	01714	01715	01715	01715	01715	01715	01715	01715	01715
P00451	FP00022.	01647	01652	01652	01652	01652	01652	01652	01652	01652
P00464	FP00023.	01716	01717	01717	01717	01717	01717	01717	01717	01717
P00471	FP00024.	01627	01630	01630	01630	01630	01630	01630	01630	01630
P00475	FP00025.	01516	01517	01517	01517	01517	01517	01517	01517	01517
P00502	FP00026.	01520	01521	01521	01521	01521	01521	01521	01521	01521
P00507	FP00027.	01522	01523	01523	01523	01523	01523	01523	01523	01523

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P00544	FP00030.	01530	01531
P00553	FP00031.	01532	01533
P00557	FP00032.	01633	01634
P00566	FP00033.	01722	01723
P00601	FP00034.	01665	01666
P00607	FP00035.	01534	01535
P00624	FP00036.	01724	01725
P00642	FP00037.	01667	01670
P00647	FP00040.	01536	01537
P00665	FP00041.	01540	01541
P00707	FP00042.	01671	01672
P00717	FP00043.	01542	01543
P00755	FP00044.	01673	01674
P00760	FP00045.	01675	01676
P00771	FP00046.	01710	01711
P01000	FP00047.	01544	01545
P01015	FP00050.	01726	01727
P01046	FP00051.	01701	01702
P01057	FP00052.	01703	01704
P01065	FP00053.	01705	01706
P01071	FP00054.	01546	01547
P01076	FP00055.	01635	01636
P01102	FP00056.	01653	01654
P01111	FP00057.	01550	01551
P01116	FP00060.	01637	01640
P01123	FP00061.	01677	01700
P01127	FP00062.	01552	01553
P01134	FP00063.	01641	01642
P01144	FP00064.	01554	01555
P01157	FP00065.	01730	01731
P01164	FP00066.	01556	01557
P01170	FP00067.	01643	01644
P01172	FP00070.	01645	01646
P01201	FP00071.	01502	01503
P01203	FP00072.	01612	01613
P01211	FP00073.	01560	01561
P01215	FP00074.	01616	01617
P01222	FP00075.	01606	01607
P01225	FP00076.	01732	01733
P01231	FP00077.	01622	01623
P01235	FP00100.	01562	01563
P01250	FP00101.	01564	01565
P01300	FP00102.	01566	01567
P01321	FP00103.	01570	01571
P01327	FP00104.	01572	01573
P01351	FP00105.	01574	01575
P01372	FP00106.	01576	01577
P01404	FP00107.	01600	01601
P01420	FP00110.	01602	01603
C07474	GO	00311	01242
C07570	G	00301	00310
P01771	GDOTS	00446	00457
P01751	GETPL.	01473	01504
P01741	GETPU.	01476	01604

00322	00361	00455	01231	01241	01241
00457	00461	00477			
01610	01620				
01614	01630				
	01645				
	01712				
	01745				

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P00346	GG00000.	00340							
P00370	GG00001.	00352							
P00402	GG00002.	00374							
P00427	GG00003.	00406							
P00445	GG00004.	00433							
P00521	GG00005.	00511							
P00527	GG00006.	00521							
P00550	GG00007.	00527							
P00600	GG00010.	00570							
P00636	GG00011.	00626							
P01025	GG00012.	01017							
P01642	GG00013.	01025							
P01056	GG00014.	01042							
X00004	GRADF	00277							
C00000	H	00253							
P01772	I	01311							
		00241							
		00427							
		01343							
P00706	IF00001.	00704							
P01061	IF00002.	01060							
P00003	IFLAG	00331							
P00003	IMAX	01222							
P01427	IN00001.	00252							
P01430	IN00002.	00257							
P01431	IN00005.	01303							
P01466	INITIAL.	00237							
P01773	IYER	00271							
P00557	.10								
P00261	.11								
P01157	.100	01156							
P00604	.11	00602							
P00616	.12								
P00641	.13								
P00655	.14								
P00661	.20	00602							
P00253	.2								
P00302	.200	01424							
P00673	.21								
P00703	.22								
P00711	.30	00637							
P00340	.303								
P00370	.3000								
P00325	.3								
P00406	.3001								
P00445	.301	00337							
P00311	.302								
P00350	.303	00510							
P00370	.304								
P00600	.305	00567							
P00626	.306								
P00636	.307	00625							
P01017	.308								
P01056	.309	01016							

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		12/20/71	ED	0	PAGE NO.	10
P01774 J	00245	00312	00317	00413	00421	00467
	00556	00605	00612	00665	00692	00663
	01067	01074	01107	01114	01125	01132
	01240	01246	01253	01276	01303	01325
P01775 K	00506	01140	01141	01154	00372	00423
P00003 N	00247	00266	00314	00327	00431	00451
	00607	00647	00665	00717	01000	01071
	01235	01250	01300	01321	01327	01351
P01432 P00000.U	01436					
P01451 P00001.U	01454					
F01504 P00002.	01477					
P01604 P00003.	01505					
P01610 P00004.	01603					
P01614 P00005.	01611					
P01620 P00006.	01615					
P01650 P00007.	01621					
P01712 P00010.	01651					
P01734 P00011.	01713					
X00002 08001CT.	00000					
X00010 QMSINGL.	01425					
C07400 S	00307	00310	00322	00323	00363	00456
	01035	01256	01256	01266	01360	
P01776 SDOTY	00333					
X00005 SEECALC	00364	01077	01077	01117	01135	01171
C07304 SIG	01254	01254	01356	01357	01371	01371
P01777 SMAG	00714	00735	00736	00746	00753	00752
202000 SMALLA	00767	00767	00775	01035		
P02001 SMALLB	00773	00774	01036			
X00006 SORTF	00741	00744	00747			
X00007 STM.	00341	00353	00375	00407	00434	00512
	01026	01043				
P02002 SUM2	00712	00726	00726	00740	00743	00751
P02003 SUM3	00713	00732	00732	00743	00746	00753
X00001 THEMD.	00344	00366	00400	00425	00443	00517
	01040	01054				
P00266 TS00001.	00243					
PC0256 TS00002.	00250					
P00327 TS00003.	00305					
F00325 TS00004.	00315					
P00372 TS00005.	00351					
P00431 TS00006.	00405					
P00423 TS00007.	00415					
P00441 TS00010.	00452					
P00505 TS00011.	00472					
P00544 TS00012.	00536					
P00563 TS00013.	00554					
P00621 TS00014.	00610					
P00660 TS00015.	00650					
P00700 TS00016.	00666					
P00740 TS00017.	00720					
P01012 TS00020.	01001					
P01101 TS00021.	01072					
P01121 TS00022.	01112					

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P0137	TS00023.	01130
P0154	TS00024.	01145
P01174	TS00025.	01165
P01211	TS00026.	01177
P01244	TS00027.	01236
P01266	TS00030.	01251
P01321	TS00031.	01274
P01317	TS00032.	01301
P01337	TS00033.	01330
P01372	TS00034.	01345
P01376	TS00035.	01352
P01420	TS00036.	01400
P01413	TS00037.	01405
P01440	UP00000.	02242
		01273
		01450
P01456	UP00001.	00246
		00716
		01350
P0244	TS00001.	00267
P0223	TS00002.	00255
P0306	TS00003.	00330
P00321	TS00004.	00324
P00352	TS00005.	00373
P00406	TS00006.	00432
P00416	TS00007.	00424
P00455	TS00010.	00460
P00475	TS00011.	00504
P00537	TS00012.	00545
P00557	TS00013.	00562
P00613	TS00014.	00620
P00653	TS00015.	00657
P00671	TS00016.	00677
P00723	TS00017.	00737
P01004	TS00020.	01011
P01075	TS00021.	01100
P01115	TS00022.	01120
P01133	TS00023.	01134
P01150	TS00024.	01153
P01170	TS00025.	01173
P01200	TS00026.	01212
P01241	TS00027.	01243
P01254	TS00030.	01265
P01275	TS00031.	01322
P01305	TS00032.	01316
P01333	TS00033.	01336
P01346	TS00034.	01373
P01356	TS00035.	01367
P01401	TS00036.	01421
P01403	TS00037.	01412
P0C003	X0	00262
P00003	X	00263
		01172
C97020	X1	00503

00265	00304	00326	00350	00371	00404	00430	00450	01176	01210
01320	01344	01371	01377	01417	01434	01441	01442	01443	01450
00313	00414	00422	00470	00535	00543	00552	00606	00646	00664
00777	01070	01110	01126	01143	01163	01234	01247	01277	01326
01403	01452	01457	01460	01461	01464	01465			
00267									
00330									
00373									
00432									
00424									
00545									
01212									
01322									
01373									
01421									
01201	00301	00335	00357	00502	00557	01076	01116	01134	01170
00274									
01231	00454	00675	00675	00724	00730	01007	01007	01115	01115

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	12/20/71	ED	0	PAGE NO.	12
C07114 X2	01263				
	00561				
C07210 X3	00723				
	00617				
C07760 X4	01363				
	01010				
C10054 Y	01363				
P02004 Y2	00365				
P02005 Y3	00752				
P02006 YHY	00754				
	01324				
	01264				
	00565				
	00723				
	00623				
	01014				
	01075				
	00616				
	01133				
	00655				
	00616				
	01133				
	00655				
	01257				
	01266				
	01307				
	01312				
	01333				
	00770				
	00773				
	01033				
	00656				
	00727				
	01261				
	01310				
	00671				
	01313				
	01314				
	01310				
	01334				
	01362				
	00671				
	00676				
	00702				
	01314				
	01334				
	01362				

00456 SYMBOLS

FTN5.5

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1

```

SUBROUTINE F28MIN(XX,P)
  CSUBR  F28MIN  15APR71
  CUSE   1      10CT71
  C
  COMMON/I,X0(50),Y0(50),VI(50),RADL(50),VTOA(50.30),S(50.30),
  1 VEFF(50.30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,DUM(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  CEND
  1 *****
  DIMENSION XX(60)
  DO 1 I=1,NI
  CALL MOVE(I,XX(2*I-1),XX(2*I))
  1 CONTINUE
  CALL VAL(F)
  RETURN
  END
  1000
  10000
  2000
  1000
  2000
  3000
  4000
  5000
  6000
  2000
  3000
  4000
  5000
  6000
  7000
  8000
  9000

```

5.4TS F28MIN

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

F28MIN

EXTERNAL SYMBOLS

1

IDENT

00113
00005

11444

F28MIN

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EO

0

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2

080DICT.
MOVE
VAL

P00051	BEGIN.	00074	00102	00106				
P00001	DICT.	00007	00021	00032	00054	00055		
C11422	DUM1							
P00075	ENDING.	00010	00034	00051	00052	00053	00053	
C11266	ERDEL							
P00000	EXIT.	00100						
P00805	F	00033						
P00005	P28MIN	00005						
P00016	PP00001.	00063						
P00017	PP00002.	00064						
P00022	PP00003.	00067	00070					
P00023	PP00004.	00065	00066					
P00033	PP00005.	00073						
P00111	GETPL.	00056	00071					
P00101	GETPU.	00061	00105					
P00112	I	00012	00022	00025	00044			
P00035	IN00001.	00015	00036	00047				
P00051	INITIAL.	00010						
P00025	1.							
P00022	200001.	00016	00017					
P00004	MJ	00020						
X00002	MOVE	00027	00027					
C11420	N1							
C11421	NJ							
P00003	NUMMAX	00041						
P00036	P00000.U							
C11230	PDEL	00062						
P00071	PF00002.	00072						
P00074	PF00003.	00000	00006					
X00001	Q00DICT.							
C00226	RADL							
C03244	S							
P00027	TS00001.	00014	00024	00026	00037	00044	00045	00046
P00043	UP00000.	00013						00050
X00003	VAL	00031						
C06200	VEFF							
C11362	VESC							
C00144	VI							
C00310	VTOA							
P00015	WS00001.	00030	00030					
C11134	X							
C00000	X0							
P00005	XX	00016	00017	00022	00023			
C11172	Y							
C00062	Y0							
C11324	YDACL							

00056 SYMBOLS

FTNS.5

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```

SUBROUTINE GRADF(XX,G)
  CSUBR  GRADF  15APR71
  CUSE   1      10CT71
  C
  COMMON/1/X0(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
1  VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
2  VESC(30),NI,NJ,DUM1(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  DIMENSION XX(60),G(60)
  DO 1 I=1,MJ
    G(2*I-1)=-VMARG(I,XX(2*I-1),.001,XX(2*I))/,001
    G(2*I)=-VMARG(I,XX(2*I-1),XX(2*I),.001)/,001
  1 CONTINUE
  RETURN
  END
  CEND

```

1000
1100
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

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1

```

SUBROUTINE GRADF(XX,0)
  CSUBP  GRADF  15APR71
  CUSE   1      10CT71
  C
    COMMON/1/X0(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
     1  VEFF(50,30),X(30),Y(30),PDEL(30),EMDEL(30),YDSCL(30),
     2  VESC(30),NI,NJ,OUNI(18)
    DATA (NUMMAX=30), (NJ=50)
  C
    CEND
    DIMENSION XX(60),G(60)
    DO 1 I=1,NI
      G(2+I-1)=-VMARG(I,XX(2+I-1)+.001,XX(2+I))/,001
      G(2+I)=-VMARG(I,XX(2+I-1),XX(2+I)+.001)/,001
    1 CONTINUE
    RETURN
  END

```

1000
11000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

5.4TS

3RADF

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

3RADF

1

EXTERNAL SYMBOLS

QSDICT.
VMARG

IDENT

00137

00005

11444

3RADF

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0

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2

P00663 BEGIN.
P00135 COUNT.
P00001 DICT.
C11422 DUM1
P00116 ENDING.
C11266 ERDEL
P00000 EXIT.
P00020 FPG0001.
P00022 FPG0002.
P00027 FPG0003.
P00031 FPG0004.
P00032 FPG0005.
P00033 FPG0006.
P00040 FPG0007.
P00043 FPG0010.
P00005 G
P00132 GETPL.
P00122 GETPU.
P00005 GRADE
P00136 I
P00047 IN00001.
P00063 INITIAL.
P00044 .I
P00133 .ERASER.
P00026 .Z00001.
P00040 .Z00002.
P00004 MJ
C11420 NI
C11421 NJ
P00003 NUMMAX
P00050 P00000.U
C11230 PDEL
P00107 PF00002.
P00115 PF00003.
X00001 Q8DICT.
C00226 RADL
C03244 S
P00046 TS00001.
P00055 UP00000.
C00200 VEFF
C11362 VESC
C00144 VI
X00002 VMARG
C00310 VTOA
P00020 WS00001.
C00000 X0
C11134 X
P00005 XX
C11172 Y
C00062 Y0
C11324 YDCL
00063 SYMBOLS

00115 00123 00127
00016 00017 00037
00007 00025 00066 00067
00010 00046 00063 00064 00065 00065
00121 00101
00100 00077
00102 00112
00076 00106
00111 00104
00075 00114
00105 00031
00070 00043
00073 00107
00005 00126
00012 00026 00040 00045 00056
00017 00050 00061
00010 00026 00035 00041
00014 00014
00053
00074
00110
00000 00006
00015
00013
00024
00045
00020 00022 00027 00032 00034 00040 00062 00062

```

SUBROUTINE GRADF (XX,6)
  CSUBR  GRADF  15A071
  CUSE   1      10CT71
  C
    COMMON/1/X0(50),Y0(50),V0(50),RADL(50),VTOA(50,30),S(50,30),
     1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
     2 VESC(30),NI,NJ,DUM1(18)
    DATA (NUMMAX=30), (MJ=50)
  C
  CEND
    1
    DIMENSION XX(60),G(60)
    DO 1 I=1,MJ
      G(2*I-1)=-VMARG(I,XX(2*I-1),.001,XX(2*I))/,.001
      G(2*I)=-VMARG(I,XX(2*I),.001,XX(2*I))/,.001
    1 CONTINUE
    RETURN
  END

```

1000
11000
2000
1000
2000
3000
4000
5000
6000
7000
8000
9000

5.475

GRADF

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3

P00063	BEGIN.	00115	00123	00127				
P00135	COUNT.	00016	00017	00037	00066	00067		
P00001	DICT.	00007	00025					
C11422	DUM1							
P00116	ENDING.	00010	00046	00063	00064	00064	00065	00065
C11266	ERDEL							
P00000	EXIT.	00121						
P00020	FP00001.	00100	00101					
P00020	FP00002.	00102						
P00027	FP00003.	00076	00077					
P00031	FP00004.	00111	00112					
P00032	FP00005.	00075						
P00033	FP00006.	00105	00106					
P00040	FP00007.	00103	00104					
P00043	FP00010.	00113	00114					
P00005	G	00031	00043					
P00132	GETPL.	00070	00107					
P00122	GETPU.	00073	00126					
P00005	GRADF	00005						
P00136	I	00012	00026	00040	00045	00056		
P00047	IN00001.	00017	00050	00061				
P00063	INITIAL.	00010						
P00044	I		00026	00035	00041			
P00133	ERASER.	00022						
P00026	Z00001.	00023						
P00040	Z00002.	00033						
P00004	MJ							
C11420	NI	00014	00014					
C11421	NJ							
P00003	NUMMAX							
P00050	P00000.U	00053						
C11230	POEL	00074						
P00107	PF00002.	00110						
P00115	PF00003.	00060	00006					
X00001	Q0001CT.							
C00226	RADL							
C03244	S							
P00046	T500001.	00015						
P00055	U000000.	00013	00051	00056	00057	00060	00062	00062
C06200	VEFF							
C11362	VESC							
C00144	VI							
X00002	VKARG	00024	00036					
C00310	VTOA							
P00020	W500001.	00045						
C00300	X0							
C11134	X							
P00005	XX	00020	00022	00027	00032	00034	00040	
C11172	Y							
C00062	Y0							
C11324	Y0SCL							
00063	SYMBOLS							

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FTNS.5

```

FUNCTION IMAX(ARRAY,NARRAY)
  IMAX  11/04/68 *****
  CSUBR DIMENSION ARRAY(2) *****
  AS=1.
  GO TO 1
  ENTRY IMIN
  AS=-1.
  1 M=1
    DO 2 I=2,NARRAY
      IF (A*(ARRAY(I)-ARRAY(M))) 2,2,3
    3 M=I
  2 CONTINUE
  IMAX=M
  RETURN
  END
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000

```

S.4TS IMAX

PROGRAM LENGTH IMAX
ENTRY POINTS IMIN
EXTERNAL SYMBOLS Q8QDICT.

IDENT

00110
00003
00011

IMAX

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EO

0

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2

P00104 A	00019	00016	00031		
P00003 ARRAY	00026	00030			
P00042 BEGIN.	00064	00073	00077		
P00105 COUNT.	00024	00025			
P00001 DICT.	00005	00013	00045	00046	
P00065 ENDING.	00006	00014	00040	00042	00044
P00000 EXIT.	00071				
P00022 FP00001.	00062				
P00026 FP00002.	00054				
P00030 FP00003.	00056				
P00102 GETPL.	00047				
P00072 GETPU.	00052				
P00106 I	00021		00033	00036	
P00003 IMAX	00003				
P00011 IMIN	00011				
P00042 INITIAL.	00006	00014			
P00017 .1	00010				
P00035 .2	00032				
P00033 .3					
P00107 M	00020	00027	00034	00037	
P00003 MARRAY	00022				
P00060 PF00002.	00053				
P00064 PFC0003.	00061				
X00001 QB0001.	00000	00004	00012		
P00037 TS00001.	00023				
P00041 VALUE.	00040	00070			
P00026 WS00001.	00036				
00033 SYMBOLS					


```

SUBROUTINE LREORDER(ISEQ, N, LOGAR)
  CSUBR  LREORDER  210CT70 *****
  C
  C THIS ROUTINE REORDERS A LOGICAL ARRAY ACCORDING TO THE SEQUENCE
  C ARRAY, ISEQ. THE ALGORITHM IS THE SAME AS USED IN SUBROUTINE
  C REORDER.
  C
  C DIMENSION LOGAR(N), ISEQ(N)
  C TYPE LOGICAL LOGAR, L
  C
  10 I = 1
  20 IF (I = ISEQ(I)) 30, 70, 30
  30 IF (ISEQ(I)) 70, 70, 40
  40 ITEMP = I
  50 L = LOGAR(I)
  50 NEXT = ISEQ(I)
  ISEQ(I) = -ISEQ(I)
  LOGAR(I) = LOGAR(NEXT)
  I = NEXT
  IF (ISEQ(I) = ITEMP) 50, 60, 50
  60 ISEQ(I) = -ISEQ(I)
  LOGAR(I) = L
  GO TO 10
  C
  70 IF (I = N) 80, 90, 90
  80 I = I + 1
  90 DO 100 J = 1, N
  100 ISEQ(J) = XABSF(ISEQ(I))
  RETURN
  END

```

1000
 51000
 2000
 3000
 4000
 5000
 6000
 7000
 8000
 9000
 10000
 11000
 12000
 13000
 14000
 15000
 16000
 17000
 18000
 19000
 20000
 21000
 22000
 23000
 24000
 25000
 26000
 27000
 28000
 29000
 30000

5.4TS LREORDER

PROGRAM LENGTH
ENTRY POINTS
EXTERNAL SYMBOLS
LREORDER
Q3000040
Q3010040
Q3001040

IDENT
00176
00003

LREORDER

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2

5.4TS LREORDER

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P00101 BEGIN.	00153	00161	00165						
P00171 COUNT.	00070	00072							
P00001 DICT.	00005	00104	00105						
P00154 ENDING.	00004	00077	00101	00102	00102	00103	00103		
P00000 EXIT.	00137								
P00012 P00001.	00133	00134							
P00016 P00002.	00115	00116							
P00023 P00003.	00147								
P00027 P00004.	00117	00120							
P00031 P00005.	00121	00122							
P00032 P00006.	00123	00124							
P00035 P00007.	00150								
P00037 P00010.	00151								
P00041 P00011.	00135	00136							
P00046 P00012.	00127	00130							
P00047 P00013.	00131	00132							
P00053 P00014.	00152								
P00056 P00015.	00141	00142							
P00066 P00016.	00143	00144							
P00073 P00017.	00113	00114							
P00075 P00020.	00125	00126							
P00170 GETPL.	00106	00137							
P00160 GETPL.	00111	00145	00164	00015	00020	00021	00026	00040	00041
P00172 I	00010	00011	00012	00015	00020	00021	00026	00040	00041
P00101 INITIAL.	00061	00062	00071						
P00003 ISEQ	00006			00027	00031	00032	00042	00047	00073
P00173 ITEMP	00013	00016							
P00073 .100	00021	00043							
P00007 .10	00054								
P00011 .20	00063								
P00015 .30	00014								
P00020 .40									
P00026 .50	00044	00044							
P00045 .60	00043								
P00055 .70	00013	00017	00017						
P00061 .80	00057								
P00064 .90	00057	00060							
P00174 J	00065	00071							
P00100 L	00025	00051							
P00003 L0BAR	00023	00035	00037	00053					
P00003 LREORDER	00003								
P00003 N	00056	00056							
P00175 NEXT	00030	00033	00040						
P00137 P00002.	00112								
P00145 P00003.	00140								
P00153 P00004.	00146								
X00001 0300040	00222								
X00002 0301040	00024	00034	00054						
X00003 0300001.	00000	00036	00052						
P00077 T000001.	00067								
P00073 W000001.	00076								
00063 SYMBOLS									

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FTNS.5

```

SUBROUTINE MOVE(IM,XM,YM)
  CSUBR      MOVE      15APR71
  CUSE      1          10CT71
  C
  COMMON/1/X0(50),Y0(50),V1(50),RADL(50),YTOA(50),36),S(50,30),
  1 VEPF(50,30),X(30),Y(30),POEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NJ,NJ,DUM1(18)
  DATA (NUMMAR(30), (MJ=50)
  1
  2 GENO      1
  00 10 J=1,NJ
  R2=X0(J)-XM)**2 + (Y0(J)-YM)**2
  A= RADL(J)*YDSCL(IM)
  S(J,IK)= 1.-POEL(IM)*SSKPC(1,A,ERDEL(IM),R2)
  10 CONTINUE
  RETURN
  END

```

1000
12000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

SATS MOVE

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MOVE

EXTERNAL SYMBOLS

1

IDENT

00156
00005

11444

MOVE

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ED

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[illegible]

```

SUBROUTINE PERTBLD(XG)
  CSUBR  PERTBLD  24MAY71
  C----- PERTURBS LAYDOWN WPN POSN PRIOR TO DGZSEL CALL ON FINDMIN
  CUSE    1      10CT71
  C
  COMMON/I/XG(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,DUM1(18)
  DATA (NUMMAX=30), (NI=50)
  C
  CEND    1
  DIMENSION XG(1)
  DO 1 I=1,NI
    RL=10000.
  C----- DO 5... LOOP FINDS LETHAL TARGET RADIUS (RL) ASSOC WITH WPN I
  C----- IF MORE THAN ONE RL ASSOC WITH SAME POSN, SMALLER RL CHOSEN
    DO 5 M=1,NJ
      IF (X(I).EQ.X0(M).AND.Y(I).EQ.Y0(M)) 2,5
      IF (X(I).EQ.X0(M).AND.Y(I).EQ.Y0(M)) 2,5
      2 RL=MINI(RL,RADL(M))
      5 CONTINUE
      IF (RL.EQ.100000.) 1,3
      3 CONTINUE
      FJI=0.
      FJM=0.
      FJY=0.
      DO 10 J=1,NJ
        FJI=FJI+VEFF(J,I)
        FJM=FJM+VEFF(J,I)*X0(J)
        FJY=FJY+VEFF(J,I)*Y0(J)
      10 CONTINUE
      FJM=FJM/FJI
      FJY=FJY/FJI
      RMAG=SQRT((FJM-X(I))**2+(FJY-Y(I))**2)
      C1=ERGT(1)*(RL/A.)/RMAG
      X(I)=X(I)+C1*(FJM-X(I))
      Y(I)=Y(I)+C1*(FJY-Y(I))
      XG(2*I-1)=X(I)
      XG(2*I)=Y(I)
      1 RETURN
  END

```

PERTBLD

IDENT

00245
00005

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

11444

EXTERNAL SYMBOLS

Q8QDICT.
ERGOT1
SORTF
MINIF

SAYS PERTALO

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1

```

C00310      YTOA
P00015      W500001.
P00024      W500002.
P00055      W500003.
C11134      X
C00000      X0
C00005      X0
C11172      Y
C00062      Y0
C11124      YD5CL
00100      SYMBOLS

```

00135	90135
00036	
00067	
00024	00024
00025	00061
00127	00131
00026	00026
00027	00064

00074	00075	00115	00116	00117	00120	00120	00125
00100	00100	00122	00122	00124	00124	00125	00130


```

X(I)=0.
Y(I)=0.
IG=IG(I) $ K=TYPE(IG) $ IR=IR_(IG)
PDEL(I)=PENN(I)*CCREL(IR)*SBL(IG)*REL(K)
YUMIN=XINIF(YOMIN,YIELD(IG))
ERDEL(I)=CEP(K)
25 YDCL(I)=YIELD(IG)**(1./3.)
J=0
1TP=BASEFILE(1)
PROCESS EACH TARGET ELEMENT
DUM1(1)=0.
DUM1(2)=0.
DO 90 JM=1,ICOMP
READ DATA FROM BASFILE FOR NEXT TARGET ELEMENT
IF(ICITY)26,27
26 ICITY=0 $ GO TO 28
27 CALL RDARRAY(TARGET,LTARGET)
28 CONTINUE
DUM1(1)=DUM1(1)+TGTTRAD
DUM1(2)=DUM1(2)+(TGTLAT-TLAT)*(TGTLONG-TLONG)
FOR EACH WPN I ON TGT CALCULATE FRACTIONAL VAL OF WPN I AT TOA
FV(1)=FVAL(1) $ FV(2)=FVAL(2) $ FV(3)=1.-FV(1)-FV(2)
DO 40 I=1,N $ FVAL(I)=0.
DO 30 K=1,NK
TEMP=TOA(I)/TAU(K)
FVALT(I)=FVAL(I)*FV(K)/(1.-TEMP**4)
30 CONTINUE
40 RECORD INITIAL VALUE OF TGT COMP FOR EACH HARDNESS COMPONENT
V0(1)=VTO-FVALH1
V0(2)=VTO-V0(1)
PROCESS EACH TARGET COMPONENT SEPARATELY
DO 60 JM=1,M
IF(TGTTRAD-EG.0.)50,60
SET OFFSETS DX AND DY TO 0.
50 DX=0. $ DY=0. $ XJA=1.
ASSIGN 60 TO LVELIN $ GO TO 200
SET UP ELEMENTS FOR AREA TARGET
60 RCRIT=H(JM)*YOMIN**1./3.)
JAS(1)=2.*TGTTRAD/RCRIT**1.5 $ XJA=JA
DO 70 J=1,JA
DX=TGTTRAD*CUMINV(ERGT1(1))/2.448
DY=TGTTRAD*CUMINV(ERGT2(2))/2.448
ASSIGN 70 TO LVELIN $ GO TO 200
70 CONTINUE
80 CONTINUE
90 CONTINUE
NJ=J $ NJM=J
CALL TIME(2)
IF(DUM1(1)-EG.0.-AND.DUM1(2)-EG.0.)GO TO 100
CALL COMPRESS(0)
CALL DOZSEL
CONVERT TARGET AIM OFFSETS TO DIFFERENCES IN LATITUDE, LONGITUDE
100 DO 120 I=1,N
DLAT(I)=Y(I)/60.
DLONG(I)=X(I)/(60.*COSP(TLAT*.01745329257))
120 CONTINUE

```

59200
59400
60000
61000
62000
63000
64000
65000
66000
67000
67200
67400
68000
69000
70000
71000
72000
73000
73200
73400
74000
75000
76000
77000
78000
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
90000
91000
92000
93000
94000
95000
96000
97000
98000
99000
100000
101000
101005
101005
102000
103000
104300
105000
106000
107000
108000

5.4TS PROCCOMP

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IDENT PROCCOMP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PROCCOMP

00724
00146

STAK
IFTPRINT
IYP
FILES
MASTER
MPHRES
WGROUP
TARGET
CITY
1
ISKIP08Z

EXTERNAL SYMBOLS

Q2007111
Q1010108
THEND.
GEOOICT.
ORDER
REORDER
ROARRAY
CUMING
ER6071
ER6072
TIMEHE
COMPRESS
D02SEL
PROCSIMP
MINIF
COSF
STH
QNSINGL.

5.4TS PROCCOMP

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C00020	160	00161	00204	00205	00512				
C00025	INCLASS								
C00030	INDATE								
C00036	IN00007.	00512	00627	00641	00650				
C00041	INDEX	00543							
C00041	INDEXNO	00544							
C00052	INITIAL.	00151							
C00052	IR	00212							
C00060	IR50	00211	00214						
C11362	IR20	00154	00160	00167	00167				
C00063	IS02	00167	00511						
C00062	IS10E								
C00060	ISX1PD02	00107	00533	00533	00551	00552			
C00045	ISTAPE								
C00060	ITP	00247	00247						
C00014	ITPREM								
C00310	ITYPE	00207	00207						
C00484	.106	00454							
C00456	.108001								
C00457	.108002	00452	00455						
C00506	.120								
C00507	.130	00552							
C00521	.200	00354	00430						
C00537	.210	00525							
C00617	.220								
C00173	.24								
C00232	.25								
C00237	.26	00256							
C00261	.27	00256							
C00264	.28	00260							
C00323	.30								
C00526	.301	00524	00525						
C00538	.3010	00534							
C00553	.3020	00534							
C00332	.40								
C00330	.50								
C00355	.60	00347							
C00431	.70	00427							
C00434	.80	00353							
C00437	.90								
C00560	.ERASER	00233	00240	00272	00275	00324	00325	00326	00327
		00373	00407	00412	00421	00424	00477	00502	00504
		00575							
P00107	.3011	00540							
P00226	.Z00001.	00223							
P00711	J	00244							
P00712	JA	00376	00442	00521	00522	00555	00562	00613	00645
C00067	JCLASS		00432						
P00713	JH	00343	00363	00434	00577				
C00006	JMCLASS								
C00010	JMTYPE								
P00714	JH	00253	00437						
P00715	JH	00403	00431						
P00716	K	00210	00217	00312	00316				

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C00056 KOK	00162	00513					
P00104 LTARGET	00263						
P00717 LVELIN	00354	00430	00421				
C00013 M	00435	00435					
X00017 MINIF	00224						
P00106 MJ	00524						
C00004 MSLTIME							
C00342 MULL	00155	00160	00170	00176	00176	00334	00444
C00344 M	00511	00607	00607				00467
	00541	00541					00467
C00023 MAlert							
C00000 NAME							
C00016 NASHTYPE							
C00010 NMDRY							
C00022 NCLASS							
C00026 NCMTRY							
C00021 NCOMPLEX							
C00004 NCMRR							
C00025 NCMRTYPE							
C00005 NCMEN							
C00013 NCMGROUP							
C11420 NI	00445		00520	00527	00553	00553	
C11421 NJ	00443						
C00017 NK	00313						
C00347 NMPFIX							
C00015 NPAYLOAD							
C00006 NRECOVER							
C00007 NREF							
C00011 NREG							
C02003 NSTPT							
C00020 NTANKBAS							
C00024 NTOTS							
C00014 NTOTBASE							
C00012 NTYPE							
P00105 NUMMAX							
C00017 NMOTYPE							
X00005 CROER	00152	00165					
P00027 P00000.U	00632						
C11230 PDEL	00221	00221					
C00304 PENN	00163	00213	00213	00514			
C00017 PLANTAPE							
P00146 PROCCOMP	00196						
X00016 PROCSIMP	00516						
X00002 QIC10100	00375						
X00001 Q2007111	00235						
X00004 Q3001CT.	00000						
X00022 QNSIMLS	00624						
C00226 RADL	00601						
P00720 RCRIT	00367						
X00007 RDARRAY	00261						
C01560 REL	00220						
C00246 RELVAL	00163						
X00006 REORDER	00156						
C03244 S							

SATS PROCCOMP

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C00620	SBL	00216	00216						
X00021	STH	00536							
C00014	37KXFIL								
C00000	TARGET	00263							
C00003	TASK								
C00022	FAU	00321	00321						
P00721	TEMP	00322	00322						
C00000	TOTFILE								
C00007	TOTLAT	00267	00267	00597					
C00010	TOTLONG	00273	00273	00566					
C00004	TOTMULT								
C00000	TOTNAME	00544	00544						
C00011	TOTRAD	00265	00265						
X00003	TEND	00547							
X00013	TIME	00446							
C00011	FLAT	00270	00270	00560					
C00012	TLONG	00274	00274	00570					
C00010	TMPALOC								
C00210	TOA	00154	00162	00320	00320				
P00243	TS00001	00177							
P00440	TS00002	00254							
P00334	TS00003	00307							
P00332	TS00004	00314							
P00435	TS00005	00344							
P00432	TS00006	00403							
P00507	TS00007	00470							
P00621	TS00010	00610							
C00003	TSK								
P00634	UP00000	00175	00306	00332	00486	00630	00635	00636	00642
P00644	UP00007	00245	00523	00556	00645	00647	00651	00651	
C11362	VALT								
C00200	VEFF								
C11362	VESC								
C00144	VI	00603	00604	00614	00614				
P00077	VO	00340	00342	00342	00602				
C00012	VTO	00336	00336	00340	00341				
C00310	VTOA	00616	00616						
P00262	WS00001	00242							
P00255	WS00002	00441	00441						
P00310	WS00003	00335	00335						
P00320	WS00004	00331							
P00345	WS00005	00436	00436						
P00404	WS00006	00433	00433						
P00473	WS00007	00506							
P00614	WS00010	00620							
C00000	X0	00576	00576						
C11134	X	00202	00202	00503	00503				
P00722	XJA	00353	00402	00603					
C11172	Y	00204	00473	00473					
C00062	Y0	00563	00563						
P00723	YDMIN	00172	00226	00227	00261				
C11324	YDSCL	00241	00241						
C01130	YIELD	00222	00226	00237	00237				
00321	SYMBOLS								

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```

SUBROUTINE PROCMULT
  CSUBR      PROCMULT 18OCT71 *****
  C          FOR EACH ELEMENT OF A MULTIPLE TARGET PROCMULT READS ONE RECORD -
  C          /MULTTOT/ = FROM BASFILE, CREATES SEPARATE TARGET COORDINATES FOR
  C          THE ELEMENT, PUTS /MULTTOT/, TLAT, AND TLONG IN /STRK/, AND CALLS
  C          PROCSIMP TO OUTPUT THE STRIKE RECORD
  C          CUBE
  C          STRK      15APR71 *****
  C          COMMON/STRK/NAME,INDEX,DSIG,TSK,CNTRLC,FLG,JMCLASS,JMTYPE,
  C          1TLAT,TLONG,IATPRN,ITPRN,ISDN,DISTP,ISG(30),NOR(30),
  C          2ZLAT(30),ZLONG(30),TOA(30),RELVAL(30),PENN(30),MULL,ICORP,N,
  C          3ISTAPE,IEOT,NNFIX
  C          TYPE INTEGER DSIG,TSK,CNTRLC,FLG
  C          CENO
  C          STRK      *****
  C          MULTTOT 15APR71 *****
  C          COMMON/MULTTOT/MULTTOT(8)
  C          DATA (MULTTOT = 8)
  C          CENO
  C          MULTTOT *****
  C          DIMENSION TMULTTOT(8)
  C          EQUIVALENCE(TMULTTOT,MULTTOT)
  C          CUBE
  C          FILES      15APR71 *****
  C          COMMON/FILES/TOTFILE(2),BASFILE(2),MSLTIME(2),ALOCYAR(2),
  C          1TMPALOC(2),ALOCGRP(2),STRKFL(2),EVENTAPE,PLANTAPE
  C          1STRKFL,EVENTAPE,PLANTAPE
  C          CENO
  C          FILES      *****
  C          ITPRNT 15APR71 *****
  C          COMMON/ITPRNT/ITPRNT(10)
  C          CENO
  C          ITPRNT *****
  C          ITP      15APR71 *****
  C          COMMON/ITP/ITP
  C          CENO
  C          ITP      *****
  C          DATA(ANGLE=0.0)
  C          SET FOR USE IF ALOCOUT IS RUNNING IN DEBUG MODE
  C          TLAT=TLAT
  C          TLONG=TLONG
  C          INDEX=INDEX-1
  C          DO 40 I=1,MULL
  C          ITP=BASFILE(I)
  C          READ MULTIPLE TARGET DATA FROM BASFILE
  C          CALL READARRAY(MULTTOT,LMULTTOT)
  C          NAME=MULTTOT(1) $ INDEX=MULTTOT(2) $ DSIG=MULTTOT(3)
  C          TSK=MULTTOT(4) $ CNTRLC=MULTTOT(5) $ FLG=MULTTOT(6)
  C          TLAT=MULTTOT(7) $ TLONG=MULTTOT(8)

```

FTNS.5

C WRITE STRIKE DATA RECORD FOR EACH TARGET
40 CALL PROCSIMP
 RETURN
 END

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39000
40000
41000
42000

IDENT PROCMULT

00001
00003
00350
00010
00020
00012
00001

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES
PROCMULT
STRK
MULTTGT
FILES
IFIPRNT
ITP

EXTERNAL SYMBOLS
Q0001C1.
RDARRAY
PROCSIMP

5-ATS PROCMULT

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EO

0

PAGE NO.

4

C00012 ALOCBP
 C00006 ALOCTAR
 P00004 ANGLE
 C00002 BASFILE
 P00004 BEGIN.
 C00004 CNTRLC
 P00001 DICT.
 C00016 DISTF
 C00017 DISTG
 C00114 OLAT
 C00152 OLONG
 C00002 DSIG
 P00055 ENDING.
 C00016 EVENTAPE
 P00000 EXIT.
 C00005 FLG
 P00056 I
 C00013 IA7LOC
 C00343 ICOMP
 C00015 IDPN
 C00346 IEDY
 C00000 IFTMNT
 C00020 IGG
 C00001 INDEX
 P00054 INITIAL.
 C00345 ISTAPE
 C00000 ITP
 C00014 ITPREM
 P00046 .40
 C00007 JCLASS
 C00006 JHCLASS
 C00010 JHTYPE
 C00056 KOR
 P00003 LMULTTOT
 C00004 MSLTIME
 C00342 MULL
 C00000 MULTTBT
 C00344 N
 C00003 NAME
 C00347 NMFIX
 C00304 PENN
 C00017 PLANTAPE
 P00005 PROCMULT
 X00023 PROCSTMP
 X00001 QBDICT.
 X00002 RDARRAY
 C00246 RELVAL
 C00014 STRKFI.
 C00000 TGTFILE
 C00011 TLAT
 P00057 TLAT1
 C00012 TLONG
 P00060 TLONG1

00021 00021
 00054 00037
 00037 00024
 00007 00047

00033 00033
 00010 00053
 00055 00041
 00041 00050

00015 00015 00016 00031 00031
 00010 00022
 00022 00022

00025 00025
 00051 00026
 00025 00040

00027 00027
 00005 00006
 00000 00023

00011 00011 00043 00043
 00012 00012
 00013 00013 00045 00045
 00014 00014

00026 00030 00030 00032 00034 00034 00036 00036

5.4TS PROCMULT

00010	TMALOC			
00000	TMULTOT			
00010	TOA			
00001	TS00001.			
00003	TSK			
00021	WS00001.			
00073	SYMBOLS			

00042	00042	00044	00044
00020	00035	00035	00035
00052	00052	00052	00052

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```

SUBROUTINE PROCSIMP
  CSUBR   PROCSIMP 14DECT1 *****
  C       PROCSIMP MOVES THE TARGET AND WEAPON DATA INTO /STRKTGT/ AND
  C       WRITES STRIKE RECORDS ON THE INTERMEDIATE (SCRATCH) FILE WHICH
  C       IS LATER REORDERED BY ALOCOUT2 TO PRODUCE TMPALOC
  C
  C       COMMON/STRKTGT/NAMEX,INDEX,DSIG,TSK,CNTRLCX,FLGX,JHCLASSX,
  C       JTYPEX,ILATX,TLONGX,ATLOCX,TPREMX,IDPEN,DOUT,DREC,IOX,
  C       ZKORRX,OLATX,OLONGX,TOAX,RELVALX,ITFIX
  C       TYPE INTEGER DSIG,TSK,CNTRLCX,FLGX
  C       DIMENSION TOUT(23),WOUT(6)
  C       EQUIVALENCE (TOUT,NAMEX),(WOUT,IOX)
  C
  C       DATA (LSTRKTGT=23), (LDATAW=6), (LDATAT=16)
  C
  CUSE    STRK      15APR71 *****
  C
  C       COMMON/STRK/NAME,INDEX,DSIG,TSK,CNTRLC,FLG,JHCLASS,JTYPE,
  C       ILAT,TLONG,ATLOC,ITPREM,IDPN,DISTF,IGG(30),KOR(30),
  C       ZDLAT(30),ZDLONG(30),TOA(30),RELVAL(30),PENN(30),MULTICOMP,N,
  C       STAPE,IEOT,NFIX
  C       TYPE INTEGER DSIG,TSK,CNTRLC,FLG
  C
  CEND    STRK *****
  C
  C       DIMENSION TIN(16),WIN(30,6)
  C       EQUIVALENCE (TIN,NAME),(WIN,IGG)
  C
  CUSE    ITP      15APR71 *****
  C
  C       COMMON/ITP/ITP
  C
  CEND    ITP *****
  C
  C       COMMON/MYIDENT/MYIDENT
  C
  CUSE    SCRATCH  15APR71 *****
  C
  C       COMMON/SCRATCH/ISCRATCH
  C
  CEND    SCRATCH *****
  C
  C       IF (IEOT) 2,5
  C       JHCLASSX=SHOOT
  C       MYIDENT=7HSCRATCH
  C       ITP=ISCRATCH
  C       CALL WARRAY(TOUT,LSTRKTGT)
  C       RETURN
  C
  C       5 NEXTANFIX
  C       TRANSFER TARGET DATA FROM /STRK/ TO /STRKTGT/ (FIRST 16 WORDS)
  C       DO 10 I=1,LDATAT
  C       TOUT(I) = TIN(I)
  C       10 FOR ONE WEAPON AT A TIME TRANSFER WPN DATA FROM /STRK/ TO
  C       /STRKTGT/ AND WRITE ONE RECORD ON THE SCRATCH FILE.
  C       DO 40 J=1,N
  C       DO 20 I=1,LDATAW
  C       WOUT(I)=WIN(J,I)
  C       ITP=ISCRATCH
  C       MYIDENT=7HSCRATCH

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FTNS.5

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C      IF (KORRX)25,27,27
C      SET NN EQUAL TO NUMBER OF MISSILES IN GROUP ALLOCATED TO THIS TOT
C      AND SET KORRX (PENETRATION CORRIDOR) TO ZERO.
C      25 NN=KORRX
C      KORRX=0
C      TEST NUMBER OF WEAPONS ALLOCATED BY FIXED ASSIGNMENT CAPABILITY
C      IF (NPIX) 253,252,250
C      253 NPIX=NPIX-NN
C      SET INDICATOR TO 0 OR 1 WHEN NPIX IS 0 OR GREATER THAN 1.
C      IIFIX=1
C      GO TO 255
C      252 IIFIX=0
C      GO TO 255
C      253 PRINT 254,NPIX
C      254 FORMAT(18H ** ERROR--NPIX =,I10)
C      CALL ABORT
C      255 CONTINUE
C      WRITE NN STRIKE RECORDS ON SCRATCH FILE.
C      DO 26 K=1,NN
C      26 CALL WRARRAY(TOUT,LSRKTOT)
C      GO TO 40
C      27 CONTINUE
C      TEST NUMBER OF WEAPONS ALLOCATED BY FIXED ASSIGNMENT
C      CAPABILITY, AND SET IIFIX INDICATOR TO 1 UNLESS NPIX
C      REDUCES TO 0.
C      IF (NPIX)253,272,270
C      270 NPIX=NPIX-1
C      IIFIX=1
C      GO TO 274
C      272 IIFIX=0
C      274 CONTINUE
C      WRITE A STRIKE RECORD ON SCRATCH FILE.
C      30 CALL WRARRAY(TOUT,LSRKTOT)
C      40 CONTINUE
C      RETURN
C      END

```

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75000

5.4TS PROCSIMP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PROCSIMP

STARTOT

STRK

ITP

MYIDENT

SCRATCH

EXTERNAL SYMBOLS

THEND.

ORGOICT.

WRARRAY

ABORT

STH.

QNSINGL.

IDENT

LC223
00020

00027

00350

00001

00001

00001

PROCSIMP

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ED

0

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3

5.4TS PROCSTMP

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ED

0

PAGE NO.

4

X00004	ABORT	00124
C00013	ATLOCK	
P00210	BEGIN.	00211
C00004	CNTRLC	
C00004	CNTRLCX	
P00160	CHVT1.	00121
P00215	COUNT.	00046 00062 00064
P00006	CRFMT.	00045
P00001	DICT.	00124
C00016	DISTF	00022 00035 00116 00123 00125 00131 00150
C00017	DISTG	
C00114	DLAT	
C00022	DLATX	
C00152	DLONG	
C00023	DLONGX	
C00016	DOOT	
C00017	DREC	
C00002	DSIG	
C00002	DSIGX	
P00212	ENDING.	00023 00037 00156 00210 00211
P00000	EXIT.	00213
C00005	FLS	
C00005	FLSX	
P00006	FORMAT.	00026 00030 00073
P00124	G000000.	00114
P00216	I	00042 00046 00057 00063 00170
C00013	IATLOC	
C00343	ICOMP	
C00015	IDREN	
C00015	IDPM	
C00346	IEOT	00024 00024
C00020	IG	
C00020	IGX	
C00026	IFIX	00110 00111 00112 00113 00143 00144 00145 00146
P00161	ING0002.	00063 00162 00176 00206
C00001	INDEX	
C00001	INDEXX	
P00210	INITIAL.	00023
C00000	ISCRATCH	00032 00071 00071
C00345	ISTAPE	
C00003	ITP	00033 00033 00072 00072
C00014	ITPREM	
P00047	.10	00025
P00026	.2	
P00065	.20	00076
P00100	.25	
P00106	.250	
P00112	.252	00104
P00114	.253	00135
P00126	.255	00111 00113
P00130	.26	
P00137	.27	00076 00077
P00141	.270	
P00145	.272	00140

5.4TS PROCSIMP

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P00147	.274	00144			
P00147	.30	00136			
P00152	.40	00025			
P00040	.5	00026			
P00005	..100000	00030			
P00007	..100001	00073			
P00010	..100002	00117			
P00011	..254	00053			
P00217	J	00152	00203		
C00007	JCLASS				
C00007	JCLASSX				
C00006	JCLASS	00027	00027		
C00006	JCLASSX				
C00010	JHYPE				
C00010	JHYPEX	00127	00133		
P00220	K				
C00056	KOR	00075	00100	00102	00103
C00021	KORRX	00044			
P00005	LDATAT	00061			
P00004	LDATAN	00132	00151		
P00003	LSTRKTOT	00031	00074	00074	
C00342	MULL	00154			
C00000	MYIDENT				
C00344	N				
C00000	NAME	00041	00104	00107	00141
C00000	NAMEX	00101	00107	00120	00142
P00221	MFIX	00040	00040		
P00222	NN	00105			
P00162	PNFIX	00200			
P00176	P00000.U				
C00304	PENN	00020			
P00020	PROCSIMP	00000	00021		
X00002	Q80ICT.	00157			
X00006	QNSIMBL.				
C00246	RELVAL	00115			
C00025	RELVALX	00122			
X00005	STM.	00047			
X00001	THEND.				
C00000	TIN				
C00021	TLAT				
C00011	TLATX				
C00012	TLONG				
C00012	TLONGX				
C00210	TOA				
C00024	TOAX	00036	00050	00132	00151
C00005	TCUT				
C00014	TPREMX	00045			
P00052	TS00001.	00055			
P00154	TS00002.	00062			
P00071	TS00003.	00127			
P00134	TS00004.				
C00003	TSK				
C00003	TSKX				

S.ATS PROCIMP

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P00167 UP00000.
P00202 UP00001.
C00020 WIN
C00020 ROUT
X00003 WRARRAY
P00047 W00001.
P00056 W00002.
P00065 W00003.
P00130 W00004.
00165 SYMBOLS

00043 00060 00162 00170 00171 00172 00174 00175
00054 00153 00176 00203 00204 00205 00207 00207
00065 00065 00066 00066 00066 00066 00066 00066
00066 00130 00130 00147 00155 00155 00155 00155
00051 00070 00135 00135 00135 00135 00135 00135

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```

SUBROUTINE SEECALC (VECTOT,XX)
      CSUBR      SEECALC      ISAPRT1
      CUBE      1      LOCTT1
      C
      COMMON/1/X(50),Y(50),Z(50),RADL(50),VTOA(50,30),S(50,30),
      1      VEPP(50,30),X(30),Y(30),POEL(30),ENDEL(30),YDSEL(30),
      2      VESCC(30),NI,NJ,DUM1(10)
      DATA (NUMMAA20), (NJ=50)
      C
      CEND      1
      DIMENSION XX(60)
      CALL TIME1(-2)
      PRINT 500
      500 FORMAT(/,51X,25HGOZSEL COMPUTATION VALUES /)
      2000 IF (NJ.GT.5) 2000,2001
      2000 NJ=5
      GO TO 2002
      2001 NJ=NI
      2002 CONTINUE
      PRINT 501
      501 FORMAT(4H MPN,25X,14X,14X,14X,25H1,13X,25H2,13X,25H3,13X,
      X25H4,13X,25H5/)
      DO 2003 I=1,NI
      PRINT 502,I,XX(2*I-1),XX(2*I),S(J,I),J=1,NJ)
      2003 CONTINUE
      502 FORMAT(14,11X,7(F15.6))
      PRINT 503,VECTOT
      503 FORMAT(/,30X,28H TOTAL ESCAPED TARGET VALUE= F15.0/)
      CALL TIME1(-3)
      RETURN
      END

```

5.475 SEECALC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

SEECALC

EXTERNAL SYMBOLS

1

THEND.
ORDDICT.
TIME
STH.
QNSINGOL.

IDENT

00305
00073
11444

SEECALC

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ED

0

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2

5-ATS SEECALC

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ED

0

P00240	BEGIN.	00262	00270	00274	00133	00173			
P00205	CHVAT1.	00140	00142	00144	00176				
P00005	CHVAT.	00112	00127	00166					
P00001	DICT.	00075	00102	00106	00111	00123	00126	00135	00161 00170 00175 00201
		00243	00244						
C11422	DUM1	00076	00203	00240	00241	00241	00242	00242	
P00263	ENDING.								
C11266	ERDEL	00266							
P00000	EXIT.								
P00005	FORMAT.								
P00141	FORJ001.	00260	00261						
P00143	FP00002.	00256	00257						
P00172	FP00003.	00252	00253						
P00277	GETPL.	00245	00254						
P00267	GETPU.	00250	00273						
P00112	GG00000.	00104							
P00127	GG00001.	00121							
P00162	GG00002.	00133							
P00176	GG00003.	00166							
P00302	I	00130							
P00206	IN00001.	00137	00162	00217					
P00207	IN00002.	00141	00210	00222					
P00240	INITIAL.	00151	00211	00224	00226	00236			
P00115	.2000	00076							
P00117	.2001	00113	00114						
P00121	.2002	00116							
P00162	.2003								
P00300	.ERASER.	00100	00103	00177	00202				
P00305	.500	00107							
P00017	.501	00124							
P00051	.502	00136							
P00040	.503	00171							
P00303	J	00146	00154	00233					
P00004	HJ								
C11420	NI	00164	00164	00117	00117				
C11421	NJ	00112	00112	00156					
P00304	NJ1	00116	00120						
P00003	NUMMAX								
P00210	P00000.U	00214							
P00226	P00001.U	00230							
C11230	PDEL								
P00254	PF00002.	00251							
P00262	PF00003.	00255							
X00002	Q0001CT.	00000	00074						
X00005	QNSINGL.	00204							
C00324	RADL								
C00344	S	00152	00152						
P00073	SEECALC	00073							
X00004	STH.	00105	00122	00134	00167				
X00001	TEND.	00110	00125	00160	00174				
X00003	TIME	00101	00200						
P00164	TS00001.	00132							
P00156	TS00002.	00150							
P00216	UP00000.	00131	00163	00212	00217	00220	00221	00224	00225

P00232 UP00001.
 C00200 VEPF
 C11362 VESC
 P00005 VESCTOT
 C00144 VI
 C00310 VTOA
 P00133 NS00001.
 P00151 NS00002.
 C11134 X
 C00000 X0
 P00005 KX
 C00062 Y0
 C11172 Y
 C11324 YDSCL
 00103 SYMBOLS

00237

00235

00233

00226

00155

00147

00147

00147

00147

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00147

00147

00147

FTNS.5

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PAGE NO.

1

```

SUBROUTINE SEEINPUT
  CSUBR      1  10CT71
  CUBE       1  10CT71
  C
  COMMON/1/XO(50),YO(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1  VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSEL(30),
  2  VESC(30),MINJ,OUNI(18)
  DATA (NUMMAX=30), (HJ=50)
  C
  CEND
  1  EQUIVALENCE (IA1,A1),(IA2,A2),(IA3,A3),(IA4,A4)
  CALL TIMEH(-2)
  PRINT 500
  500  FORMAT(1H1,50X,25HTGT DATA INPUT TO SEESEL  /)
  2000  NJ1=7
  IF (NJ1-7) 2000,2001
  2001  NJ1=NJ
  2002  CONTINUE
  PRINT 501
  501  FORMAT(6H TOTAL,23X,1H1,14X,1H2,14X,1H3,14X,1H4,14X,1H5,14X,1H6,
  1  X14X,1H7/)
  IA1=2HAC
  IA2=2HYO
  IA3=2HVI
  IA4=4HRAOI
  PRINT 502,1,(XO(J),J=1,NJ1)
  PRINT 502,2,(YO(J),J=1,NJ1)
  PRINT 502,4,(RADL(J),J=1,NJ1)
  PRINT 502,3,(VI(J),J=1,NJ1)
  502  FORMAT(1X,A6,6X,7(F15.6))
  DO 2003 I=1,NJ
  PRINT 503,I,(VTOA(J,I),J=1,NJ1)
  2003  CONTINUE
  503  FORMAT(1X,5HVTOA(12,1H),6X,7(F5.3,6))
  PRINT 504
  504  FORMAT(/,27X,3HMPN,11X,4HPODEL,10X,5HMERDEL,10X,5HYDSEL /)
  PRINT 505,(I,PDEL(I),ERDEL(I),YDSEL(I),I=1,NJ)
  505  FORMAT(27X,13,3(F15.6))
  CALL TIMEH(-3)
  RETURN
END

```

5.4TS SEEINPUT 12/20/71 ED 0 PAGE NO. 2

IDENT SEEINPUT

PROGRAM LENGTH 00437
ENTRY POINTS 00135
BLOCK NAMES 11444

EXTERNAL SYMBOLS
THEND.
QBOOICT.
TIME
STH.
QNSINBL.

5.4TS SEE INPUT

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03

PAGE NO.:

P00003	A1	002003
P00004	A2	00223
P00005	A3	00267
P00006	A4	00245
P00030	82GIN.	00430
P00040	CNVRT1.	00202
P00011	CRFMT.	00360
P00001	DICT.	00134
		00137
		00262
C11422	DUM1	00146
P00031	ENDING.	00140
C11266	EXDEL	00361
P00000	EXFY.	00431
P00011	FORMAT.	00171
P00154	GG00000.	00146
P00171	GG00001.	00143
P00217	GG00002.	00176
P00341	GG00003.	00217
P00263	GG00004.	00241
P00305	GG00005.	00263
P00333	GG00006.	00311
P00345	GG00007.	00337
P00371	GG00010.	00345
P00034	I	00306
P00003	I41	00172
P00004	I42	00173
P00005	I43	00174
P00006	I44	00175
P00040	IN00002.	00322
P00030	INITIAL.	00140
P00157	..2000	00155
P00161	..2001	00160
P00163	..2002	
P00333	..2003	
P00032	..ERASER.	00142
P00056	..100000	00171
P00057	..100001	00173
P00060	..100002	00174
P00061	..100003	00175
P00011	..500	00151
P00024	..501	00156
P00062	..502	00201
P00072	..503	00314
P00196	..504	00362
P00126	..505	00360
P00035	J	00203
		00277
P00010	MJ	
C11420	NI	00335
C11421	NJ	00154
P00036	NJ1	00160
P00007	NUMMAX	
P00002	NUMMAX	00404

00210	00224	00232	00246	00254	00270	00276	00316	00324	00350
00261	00362								
00171	00305	00337	00345	00371					
00144	00150	00123	00165	00170	00200	00216	00221	00240	00243
00265	00304	00313	00332	00341	00344	00347	00370	00374	
00376									
00173	00174	00175							
00315	00333	00352	00355	00357	00363	00422			
00402	00412	00414	00426						
00156									
00145	00372	00375							
00222	00244	00266							
00206	00211	00225	00230	00233	00247	00252	00255	00271	00274
00317	00325	00407							
00335	00365	00365							
00154	00161	00161							
00162	00213	00235	00257	00301	00327				

5.ATS SEEINPUT

	12/20/71	ED	0	PAGE NO.	*
P00414 P00001.U	00417				
C11230 PDEL	00357				
X00002 G0001CT.	00000				
X00005 GNSINGL.	00377				
C00226 RADL	00253				
C03244 S					
P00135 SEEINPUT	00135				
X00004 STM.	00147				
X00001 THEM0.	00152				
X00003 TIMEWE	00143				
P00213 T500001.	00205				
P00235 T500002.	00227				
P00257 T500003.	00251				
P00301 T500004.	00273				
P00335 T500005.	00310				
P00327 T500006.	00321				
P00365 T500007.	00354				
P00406 UP00000.	00204				
	00407				
	00307				
P00421 UP00001.					
C00200 VEFF	00212				
C11362 VESC	00410				
C00144 VI	00334				
C00310 VTOA	00275				
P00206 W500001.	00323				
P00230 W500002.	00214				
P00252 W500003.	00236				
P00274 W500004.	00260				
P00311 W500005.	00302				
P00322 W500006.	00336				
P00355 W500007.	00330				
C00000 X0	00366				
C11134 X	00207				
C00002 Y0	00231				
C11172 Y	00362				
C11324 YDCL					
00126 SYMBOLS					
	00177	00220	00242	00264	00312
	00215	00237	00261	00303	00331
					00340
					00343
					00346
					00367
	00226	00234	00250	00286	00272
	00411	00413	00413	00422	00423
	00353	00364	00415	00424	00426
					00427
					00402

```

SUBROUTINE STRKOUT
  CSUBR   STRKOUT   IOST71
  C       WRITES ON OUTTAPE
  COMMON/STRKSUM/KC,UP,NTSTRK,NCORR,NSTRK(30)
  DIMENSION STRKSUM(33)
  EQUIVALENCE(STRKSUM(1),KGROUP)
  DIMENSION IPT(30),ICSEQ(30),ICORIN(30)
  DATA ((LSTRKSUM=33), (ICMAX=30)
  RAID    25JAN71
  CUSE     COMMON/RAID/NS,KORLOC,IGRP
  CEND      RAID
  CUSE     COMMON/1/I1D1(4000),IWD1(900)
  CEND      COMMON/11/I1D2(4000),IWD2(900)
  CUSE     DATA (INRECHAX=900)
  CEND      KEYS 25JAN71
  CUSE     COMMON/KEYS/KEYT11,KEYT12,KEYT13,KEYT14,KEYT21,KEYT22,KEYT31,
  CEND      1KEYT32,KEYT33,KEYT41,KEYT42,KEYT43,KEYW11,KEYW12,KEYW13,KEYW21,
  CUSE     2KEYW22,KEYW23,KEYW24,KEYW25
  CEND      KEYS
  CUSE     ALOC 25JAN71
  CEND      COMMON/ALOC/INOMPNS,ITAPEW
  CUSE     ALOC
  CEND      ITP 15APR71
  CUSE     COMMON/ITP/ITP
  CEND      ITP
  CUSE     TWORD
  C       COMMON/TWORD/ITWORD
  CEND      TWORD
  CUSE     EQUIVALENCE (ITWORD,TWORD)
  C       FILABEL 15APR71
  CEND      FILABEL
  C       COMMON/FILABEL/INIDENT,INRUNNO,INDATE,INFORM,INSECR,INTIME,
  C       1INLNSTH,INCOMM(5)
  CEND      FILABEL
  CUSE     IFIPRNT
  C       COMMON/IFIPRNT/IFIPRNT(10)
  CEND      IFIPRNT
  CUSE     IFIPRNT
  C       FILES 15APR71
  CEND      FILES
  C       COMMON/FILES/TGTFIL(2),BASFILE(2),MSLTIME(2),ALOCSTAR(2),
  C       1TMPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE,PLANTAPE
  C       TYPE INTEGER TGTFIL,BASFILE,MSLTIME,ALOCSTAR,TMPALOC,ALOCGRP,
  C       1STRKFIL,EVENTAPE,PLANTAPE
  CEND      FILES
  CUSE     DATA 25JAN71
  C       COMMON/DATA/IOUTDAT2,IOUTDAT3,IOUTDATP
  CEND      DATA
  C       READ 152,IOUTDAT1,IOUTDATP

```

```

152 FORMAT(2I10)
202 READ 202, IOUTDAT2,IOUTDAT3,IOUTDATP
202 FORMAT (3I10)
11 I = 1 S IMAX = INOWPNS
LASTGRP = 0 S IBEGIN = 1
ITP=ITAPEW S CALL SETREAD
ILEFT=1 S GO TO 175
INITIALIZE TO READ NEW GROUP
9 IGO=IGET(KEYW21,I,IWD2)
ICG=IGET(KEYW22,I,IWD2)
DO 10 IC=1,30
10 NSTRK(IC)=0
NSTRK=0
ICORIN(1)=ICG
NC=1 S IPT{NC}=1
13 NSTRK(NC)=NSTRK(NC)+1
IF(1-BE.IMAX) 100,15
15 IF(1-BE.INRECHMAX) 14,16
14 ILEFT = 2 S GO TO 171
16 I=I+1
17 IGO=IGET(KEYW21,I,IWD2)
IF(1-BE.100) 20,110
20 ICG=IGET(KEYW22,I,IWD2)
IF(1-BE.ICG) 13,25
25 NC=NC+1 S IPT{NC}=1 S NSTRK=NSTRK+NSTRK(NC-1)+ICORIN(NC)=IC
ICG=IC S GO TO 13
100 LASTGRP = 1
ITP = ITAPEW S CALL TERMTEPE
110 NSTRK=NSTRK+NSTRK(NC)
KGROUP=100
NCGR=NC
ORDER CORRIDDERS BY NO. OF STRKS. ICOMPLEMENT TO GET HIGH TO
C L-y SEQUENCE.)
DO 130 J=1,ICMAX
130 NSTRK(J)=NSTRK(J)
CALL ORDER(NSTRK,ICSEQ,ICMAX)
RESTORE NSTRK TO POSITIVE NOS.
DO 150 J=1,ICMAX
150 NSTRK(J) = -NSTRK(J)
CALL REORDER(ICSEQ,ICMAX,3,NSTRK,IPT,ICORIN,0,0,0,0)
WRITE OUT STRKSUM BLOCK
ITMP=TMPALOC(1)
ITPRNT(ITMP) = IOUTDAT1
CALL WRANPRY(STRKSUM,LSTRKSUM)
IF(IOUTDATP-EG,0) 80 TO 160
IF(1-I/IOUTDATP)=IOUTDATP) 160,154
154 CALL TIMEW(-2)
155 FORMAT(1M1,9MKGROUP = ,14,3X,9HNTSTRK = ,16,3X,6HNCORR = ,12/3X,
,8HICORR = ,12(3X,15))
PRINT 156, (NSTRK(ICORR),ICORR=1,NCORR)
156 FORMAT(3X,8HNSTRK = ,12(3X,15))
CALL TIMEW(-3)
160 IGRP=100
C WRITE OUT RAIDSTRK BLOCK FOR EACH CORRIDDOR

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23000
24000
25000
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30000
31000
32000
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78000

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```

DO 170 J=1,NC
  KOR=ICORIN(J)
  LOC=IPT(J)
  NS=NSTRK(J)
  C 170 CALL WARDSTK
    IF THIS WAS LAST GROUP,RETURN,
    IF (LASTERP.EQ.0) 9,200
  171 NMOV = NSTRK * NSTRK(NC)
    ISHFT = INRECMAX - NMOV
    DO 172 I=1, NMOV
      IMOVFM = IMOV * ISHFT
      IND1(IMOV)=IND1(IMOVFM)
      IND2(IMOV)=IND2(IMOVFM)
  1721 CONTINUE
    DO 1722 IP = 1,NC
      1722 IPT(IP) = IPT(IP)-ISHFT
      IBEGIN = NMOV + 1
      173 IMAX = IMAX-ISHFT
      175 NREC=XHINOF(IMAX,INRECMAX)
      ITP=ITAPEV
      DO 177 I = IBEGIN,NREC
        DO 176 J=1,2
          CALL RDWORD
          IF (J.EQ.1) IND1(I)=ITHORD
          IF (J.EQ.2) IND2(I)=ITHORD
  176 IF (JAEQ.2) IND2(I)=ITHORD
  177 CONTINUE
      179 I = IBEGIN
      ITP = TMPALOC(1)
      GO TO (9,17) ILEFT
  200 KGRQUP=3HEOT
      ITP = TMPALOC(1)
      CALL WRARRAY(STRKSUM,LSTRKSUM)
      CALL TERNTAPE
      RETURN
    END

```

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86000
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89000
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92000
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95000
96000
97000
98000
99000
100000
101000
102000
103000
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105000
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107000
108000
109000
110000
111000
112000

```

5.4TS STKOUT

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IDENT STKOUT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00703
00211
00041
00004
11444
11
11444
00024
00002
00001
00001
00014
00012
00020
00003

STKOUT
STKSUM
RAID
1
11
KEYS
ALOC
ITP
THORD
FILABEL
FTPRNT
FILES
DATA
THEND.
QBCDICT.
SETREAD
IGET
TERMTAPE
ORDER
REORDER
WRARRAY
TIME
WRROSTRK
ROWORD
XMINOF
TSM.
STM.
ONSINBL.

EXTERNAL SYMBOLS

S.ATS STRKOUT

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C00012	ALDCRP	00646	00223	00233	00235	00236	00450	00451	00452	00456	00474	
C00006	ALOCAR	00221	00370	00403	00404	00541	00542	00556	00557			
C00002	BASFILE	00227	00242	00464	00502							
P00645	BEGIN.	00213	00217	00226	00231	00241	00253	00257	00264	00320	00326	00352
P00644	CHVRT1.	00375	00411	00424	00441	00445	00453	00466	00501	00505	00523	00570
P00854	COUNT.	00602	00636	00641								
P00140	CRFMT.	00214	00642	00645	00646							
P00001	DICT.											
P00647	ENDING.											
C00016	EVEN TAPE	00050										
P00000	EXIT.	00631										
P00140	FORMAT.	00215										
P00227	GG00000.	00227										
P00242	GG00001.	00443										
P00464	GG00002.	00464										
P00502	GG00003.	00243	00260	00265	00300	00305	00310	00315	00316	00321	00327	00336
P00655	I	00431	00435	00576	00606	00613	00617	00623				
P00656	IREGIN	00247	00564	00575	00622	00643						
P00657	IC	00270	00270	00331	00342							
P00136	ICMAX	00366	00377	00401	00412							
P00660	ICO	00267	00276	00332	00343							
P00377	ICORIN	00276	00342	00414	00514							
P00661	ICORR	00454	00455	00457	00471	00472	00475					
P00041	ICSEQ	00376	00412									
C00000	IFTPRINT	00422	00422									
P00662	IG	00323	00263	00317	00325							
X00004	IGET	00256	00263	00361	00507							
P00663	I80	00262	00324									
P00664	I80TO.	0026										
C00003	I80P	00310	00510	00626								
P00665	ILEFT	00255	00314	00565	00571							
P00666	IMAX	00245	00306	00566	00571							
P00667	IMOV	00537	00541	00543	00552							
P00670	IMOVPH	00544	00545									
C00007	INCOMH											
C00002	INDATE											
C00003	INFORM											
C00000	INIDENT											
P00645	INITIAL.	00214										
C00006	INLN8TH											
C00000	INOWPNS	00243	00244	00571								
P00137	INRECHAX	00311	00535									
C00001	INRUNNO											
C00004	INSECR											
C00005	INTIME											
P00671	IOUTDAT1	00222	00421									
C00000	IOUTDAT2	00234	00234									
C00001	IOUTDAT3	00236										
P00672	IOUTDATP	00224	00426	00433	00434							
P00673	IP	00554	00556									
P00003	IPT	00301	00337	00414	00516	00560	00561					

5.475 STRAIGHT

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[illegible]

X00015 TSH.	00216	00230
C00000 TWORD		
X00010 WRRARY	00423	00635
X00012 WROSTRK	00522	
P00272 W00001.	00274	
P00371 W00002.	00373	
P00405 W00003.	00407	
P00455 W00004.	00461	00461
P00472 W00005.	00477	00477
P00513 W00006.	00526	00526
P00543 W00007.	00552	
P00560 W00010.	00562	
P00577 W00011.	00621	00621
P00601 W00012.	00616	
X00014 XMINOF	00567	
00254 SYMBOLS		

FTNS.5

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```

SUBROUTINE VAL(VESCTOT)
  CSUBR      VAL      15APRT1
  CUSE      1      10CT71
  C
  COMMON/1/X(150),Y(150),Z(150),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSC(30),
  2 VESC(30),NI,NJ,DUM1(18)
  DATA (NUMMAX=30), (NJ=50)
  C
  VESCTOT=0
  DO 170 J=1,NJ
    VSURV=VI(J)
    VTOAOLD=VI(J)
    DO 150 I=1,NI
      VESC(I)=VSURV*(1-VTOA(J,I)/VTOAOLD)
      VSURV=VSURV*(1-VTOA(J,I)/VTOAOLD)
    150 VTOAOLD=VTOA(J,I)
    VESCJ=VSURV
    DO 160 I=1,NI
      J=NI-I+1
      VEFF(J,I)=VESCJ/S(J,I)
    160 VESCJ=VESC(I)
    170 VESCTOT=VESCTOT+VESCJ
  CONTINUE
  RETURN
  END

```

IDENT VAL

PROGRAM LENGTH VAL 00176
ENTRY POINTS VAL 00005
BLOCK NAMES 1 11444

EXTERNAL SYMBOLS 9890DICT.

S.ATS

VAL

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P00127 RESIN.
P00167 COUNT.
P00001 DICT.
C11422 DUMI.
P00150 ENDING.
C11266 EXDEL
P00000 EXIT.
P00011 FP00001.
P00070 FP00002.
P00072 FP00003.
P00164 GETPL.
P00154 GETPU.
P00170 I
P00171 II
P00100 IN00003.
P00127 INITIAL.
P00042 .150
P00063 .160
P00073 .170
P00172 J
P00004 MJ
C11420 NI
C11421 NJ
P00003 NUMMAX
P00101 P00050.U
P00113 P00001.U
C11239 PDEL
P00147 PF00002.
X00001 Q00DICT.
C00226 RADL
C03244 S
P00075 TS00001.
P00044 TS00002.
P00070 TS00003.
P00105 UP00000.
P00120 UP00001.
P00005 VAL
C00200 VEFF
C11362 VESC
P00173 VESCJ
P00005 VESCTOT
C00144 VI
P00174 VSURV
C00310 VTOA
P00175 VTOAOLD
P00016 WS00001.
P00032 WS00002.
P00054 WS00003.
C00000 XO
C11134 X
C00042 Y0
C11172 Y
C11324 YDSCL
00065 SYMBOLS

00147 00155 00161
00027 00031 00053
00007 00132 00133
00010 00077 00127 00130 00131 00131
00153 00146
00145 00144
00143 00141
00142 00134
00137 00160
00023 00030
00050 00055
00030 00060
00010 00101
00013 00016 00073 00106
00025 00025 00050 00051 00054 00054
00075 00075
00103
00116
00140
00000 00006
00037 00037 00061 00061
00015 00015
00026 00026
00052 00052
00014 00014
00024 00024
00005 00005
00062 00062
00035 00035
00047 00047
00012 00012
00017 00017
00020 00020
00034 00034
00032 00032
00022 00022
00076 00076
00045 00045
00067 00067

00053
00130 00130 00131 00131
00064 00121
00066 00101
00073 00106
00051 00054 00054
00061 00061
00101 00106
00114 00121 00125 00126
00064 00065
00060 00066 00071
00070 00072
00021 00021
00036 00041
00042 00042
00043 00043

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PTNS.S

```

C
SUBR      FUNCTION VMARG(IT,XT,YT)
CUSE      VMARG 15APRT1 *****
C          1 10CT1 *****
C
COMMON/1/X0(50),Y0(50),V1(50),RADL(50),VTOA(50,30),S(50,30),
1  VEFF(50,30),X(50),Y(30),PDEL(30),ERDEL(30),YOSCL(30),
2  VESC(30),NI,NJ,DUM1(18)
DATA (NUMMAG=90), (MJ=50)
C
CEND      1 *****
          DVAL=0
          DO 10 J=1,NJ
            R2= (X0(J)-XT)**2 + (Y0(J)-YT)**2
            A= RADL(J)*YOSCL(IT)
            ST=1-PDEL(IT)*SSKPC(1,A,ERDEL(IT),R2)
            DVAL= DVAL + VEFF(J,IT)*(S(J,IT)-ST)
          10 CONTINUE
          VMARG=DVAL
          RETURN
          END

```

1000
13000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000

INENT VMAR0

PROGRAM LENGTH 00170
 ENTRY POINTS 00005
 BLOCK NAMES 11444

EXTERNAL SYMBOLS 1
 0000ICT.
 SSKPC

P00162 A	00035	00041			
P00107 BEGIN.	00136	00145	00151		
P00163 COUNT.	00017	00022			
P00001 DICT.	00007	00040	00113	00114	
C11422 DUM1					
P00164 DVAL	00012	00051	00052	00055	
P00137 ENDING.	00010	00056	00110	00111	
C11266 ERDEL	00036	00042			00112 00112
P00000 EXIT.	00143				
P00021 FF00001.	00122	00123			
P00024 FF00002.	00130	00131			
P00030 FF00003.	00134	00135			
P00100 FF00004.	00124	00125			
P00154 GETPL.	00115	00126			
P00144 GETPU.	00120	00132	00150		
P00060 IN00003.	00020	00064	00074	00105	
P00110 INITIAL.	00010				
P00005 IT	00021	00100			
P00053 .10					
P00155 .ERASER.	00025	00026	00026	00031	00032 00032
P00041 .Z00001.	00036				
P00165 J	00013	00020	00071		
P00004 NJ					
C11420 NI					
C11421 NJ	00015	00015			
P00003 NUMMAX					
P00064 P00000.U	00066				
C11230 PDEL	00043	00043			
P00126 PF00002.	00121				
P00132 PF00003.	00127				
P00136 PF00004.	00133				
X00001 QBDICT.	00000	00036			
P00168 R2	00033	00042			
C00226 R4DL	00033	00034			
P00062 RELCON..	00107	00046			
C03244 S	00046				
X00002 SSKPC	00037	00047			
P00167 TT	00045				
P00055 TS00001.	00016				
P00070 UP00000.	00014	00064	00071	00072	00073 00075 00075
P00077 UP00001.	00061	00101	00102	00103	00105 00106
P00057 VALUE.	00056	00142			
C00200 VEFF	00050	00050			
C11362 VESC					
C00144 VI					
P00005 VMAR6	00005				
C00310 VTJA					
P00023 W500001.	00054				
C11134 X					
C00000 X0	00023	00023			
P00005 XT	00024				
C11172 Y					
C00062 Y0	00027	00027			
C11324 YDCL	00034				

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VMARG

P00005 YT 00030

03067 SYMBOLS

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EC

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```

SUBROUTINE WRDSTRK
  CSUBR  WRDSTRK  LOC71 *****
  COMMON/RAIO/NS,KOR,LOC,ISRP
  COMMON/11/ITD1(4000),IWD1(900)
  COMMON/11/ITD2(4000),IWD2(900)
  COMMON/12/ITD3(4000)
  COMMON/13/ITD4(4000)

  C FOR BOMBER GROUPS
  C
  C
  COMMON/2/NT,JORGRP,JCORR,INDEXNO(1100),
  1TOTLAT(1100),TOTLONG(1100),TIMEPREM(1100),IDEPEN(1100),
  2DISTOUT(1100),DISTREC(1100),ATTNLOC(1100),RVAL(1100),DELAT(1100),
  3DELONG(1100),DESIG(1100),TASK(1100),CNTRYLOC(1100),FLAG(1100),
  4IBFIX(1500)
  TYPE LOGICAL IBFIX
  TYPE INTEGER DESIG,TASK,CNTRYLOC,FLAG

  C FOR MISSILE GROUPS
  C
  C
  COMMON/2/NT,JORGRP,JCORR,INDEXNO(1500),
  1TOTLAT(1500),TOTLONG(1500),RVALM(1500),DELATM(1500),
  2DELONG(1500),DESIG(1500),TASKM(1500),CNTRYLCM(1500),FLAGM(1500),
  3INDEX(1500),IBFIX(1500)
  DIMENSION INDEXNO(1500),TOTLATM(1500),TOTLONGM(1500),RVALM(1500),
  1DELATM(1500),DELONGM(1500),DESIGM(1500),TASKM(1500),
  2CNTRYLCM(1500),FLAGM(1500),INDEX(1500)
  TYPE INTEGER DESIG,TASKM,CNTRYLCM,FLAGM
  EQUIVALENCE (INDEXNO(1),INDEXNO(1)),(TOTLATM(1),TOTLAT(40)),
  1TOTLONGM(1),TOTLONG(80)),(RVALM(1),IDEPEN(12)),(DELATM(1),
  2DISTOUT(50)),(DELONGM(1),DISTREC(90)),(DESIGM(1),RVAL(20)),
  3TASKM(1),DELAT(60)),(CNTRYLCM(1),DELONG(100)),(FLAGM(1),
  4TASK(30)),(INDEX(1),CNTRYLOC(70))

  CUSE  KEYS  25JAN71 *****
  COMMON/KEYS/KEYT11,KEYT12,KEYT13,KEYT14,KEYT21,KEYT22,KEYT31,
  1KEYT32,KEYT33,KEYT41,KEYT42,KEYT43,KEYW11,KEYW12,KEYW13,KEYW21,
  2KEYW22,KEYW23,KEYW24,KEYW25
  KEYS *****
  CUSE  ITP  15APR71 *****

  C
  COMMON/ITP/ITP

  C
  CEND  ITP *****
  CUSE  ITP *****

  C
  COMMON/ITP/ITP(10)

  C
  CEND  ITP *****
  CUSE  ITP *****

  C
  COMMON/FILES/TOTFILE(2),BASFILE(2),HSLTIME(2),ALOCSTAR(2),
  1TPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE,PLANTAPE
  TYPE INTEGER TOTFILE,BASFILE,HSLTIME,ALOCSTAR,TPALOC,ALOCGRP,
  1STRKFIL,EVENTAPE,PLANTAPE

  C

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```

CEND      FILES      *****
CUSE      DATA      25JAN71 *****
          COMMON/IOUTDAT2,IOUTDAT3,IOUTDATP *****
          DATA      *****
          TYPE INTEGER DESIG1,TASK1,CNTRYLC1 *****
          NT=NS *****
          NN=NS *****
          JGROUP=IGRP *****
          JCORR=KOR *****
          DO 200 I=1,NN *****
          J=LOC-1 + 1 *****
          IBETA      = IGET(KEYW23,J,IWD2) *****
          IF (JCORR .GT. 0)100,110 *****
100 CONTINUE *****
          INDEXNO(I) = IGET(KEYT11,IBETA,ITD1) *****
          TSTLAT(I)   = IGET(KEYT21,IBETA,ITD2)/45000.-90. *****
          TOTLONG(I)  = IGET(KEYT22,IBETA,ITD2)/45000. *****
          TIMEPREM(I) = IGET(KEYT13,IBETA,ITD1) *****
          IDEPEN(I)   = IGET(KEYT31,IBETA,ITD3) *****
          DISTOUT(I)  = IGET(KEYT32,IBETA,ITD3)/10 *****
          DISTREC(I)  = IGET(KEYT33,IBETA,ITD3)/10 *****
          ATTRLOC(I)  = IGET(KEYT12,IBETA,ITD1) *****
          RVAL(I)     = IGET(KEYW24,J,IWD2)/1000. *****
          DELAT(I)    = IGET(KEYW11,J,IWD1)/45000.-2. *****
          DELONG(I)   = IGET(KEYW12,J,IWD1)/45000.-2. *****
          DESIG1      = IGET(KEYT41,IBETA,ITD4) *****
          ENCODE (8,300,DESIG(I))DESIG1 *****
          FORMAT (RS) *****
          TASK1       = IGET(KEYT14,IBETA,ITD1) *****
          ENCODE (8,310,TASK(I))TASK1 *****
310 FORMAT (R2)      = IGET(KEYT42,IBETA,ITD4) *****
          CNTRYLC1    = IGET(CNTRYLOC(I))CNTRYLC1 *****
          ENCODE (8,310,CNTRYLOC(I))CNTRYLC1 *****
          FLAG(I)     = IGET(KEYT43,IBETA,ITD4) *****
          GO TO 120 *****
110 CONTINUE *****
          INDEXNO(I) = IGET(KEYT11,IBETA,ITD1) *****
          TSTLAT(I)   = IGET(KEYT21,IBETA,ITD2)/45000.-90. *****
          TOTLONG(I)  = IGET(KEYT22,IBETA,ITD2)/45000. *****
          RVAL(I)     = IGET(KEYW24,J,IWD2)/1000. *****
          DELAT(I)    = IGET(KEYW11,J,IWD1)/45000.-2. *****
          DELONG(I)   = IGET(KEYW12,J,IWD1)/45000.-2. *****
          DESIG1      = IGET(KEYT41,IBETA,ITD4) *****
          ENCODE (5,300,DESIG(I))DESIG1 *****
          TASK1       = IGET(KEYT14,IBETA,ITD1) *****
          ENCODE (2,310,TASK(I))TASK1 *****
          CNTRYLC1    = IGET(KEYT42,IBETA,ITD4) *****
          ENCODE (2,310,CNTRYLOC(I))CNTRYLC1 *****
          FLAG(I)     = IGET(KEYT43,IBETA,ITD4) *****
120 CONTINUE *****
          I8FIX(I)    = IGET(KEYW25,J,IWD2) *****
200 CONTINUE *****
          ITMPALOC=TMPALOC(I) *****
          IFTPRNT(ITMPALOC) = IOUTDAT2 *****
          CALL BRARAY(NT,3) *****
          IFTPRNT(ITMPALOC) = IOUTDAT3 *****

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```

IF (JCORR .GT. 0)130,140
130 CONTINUE
  CALL WRARRAY(INDEXNO,NN)
  CALL WRARRAY(TOTLAT,NN)
  CALL WRARRAY(TGTLONG,NN)
  CALL WRARRAY(TIMEPREM,NN)
  CALL WRARRAY(IDEPEN,NN)
  CALL WRARRAY(DISTOUT,NN)
  CALL WRARRAY(DISTREC,NN)
  CALL WRARRAY(ATTRLOC,NN)
  CALL WRARRAY(RVAL,NN)
  CALL WRARRAY(DELAT,NN)
  CALL WRARRAY(DELONG,NN)
  NLOG = (NN-1)/32 + 1
  CALL WRARRAY(18FIX,NLOG)
  CALL WRARRAY(DESIG,NN)
  CALL WRARRAY(TASK,NN)
  CALL WRARRAY(CNTRYLOC,NN)
  CALL WRARRAY(FLAG,NN)
  GO TO 250
140 CONTINUE
  DO 141 I=1,NN
  141 RVAL(I)=RVALM(I)
  CALL ORDER(RVALM,INDEX,NN)
  DO 142 I=1,NN
  142 RVAL(I)=-RVALM(I)
  CALL REORDER(INDEX,NN,6,INDEXNO,TOTLAT,TOTLONG,RVALM,
    IDELAT,DELONG,0)
  CALL REORDER(INDEX,NN,4,DESIGN,TASK,CNTRYLOC,FLAG,0,0,0)
  CALL LREORDER(INDEX,NN,18FIX)
  CALL WRARRAY(INDEXNO,NN)
  CALL WRARRAY(TOTLAT,NN)
  CALL WRARRAY(TGTLONG,NN)
  CALL WRARRAY(RVALM,NN)
  CALL WRARRAY(DELAT,NN)
  CALL WRARRAY(DELONG,NN)
  NLOG = (NN-1)/32 + 1
  CALL WRARRAY(18FIX,NLOG)
  CALL WRARRAY(DESIG,NN)
  CALL WRARRAY(TASK,NN)
  CALL WRARRAY(CNTRYLOC,NN)
  CALL WRARRAY(FLAG,NN)
250 CONTINUE
  IF (JOUTDATP.EQ.0)80 TO 255
260 IF (10RP-(10RP/JOUTDATP)*JOUTDATP)255,210
210 CALL TIME(-2)
  IF (JCORR)210,214
2101 PRINT 211,NT,JGROUP,JCORR
211 FORMAT(6HNT = ,I3,3X,9HJGROUP = ,I3,3X,9HJCORR = ,I3/
  1X,9HINDEXNO ,6HTOTLAT,6X,7HTOTLONG,6X,6HTPREM ,6HIDEPEN ,
  2 7HDISTOUT,3X,7HDISTREC,3X,7HATTRLOC,4X,6HHRVAL,6X,4HDLAT,6X,
  3 5HDLONG,2X,7H18FIX ,I3X,5HDESIG,1X,2HCL,1X,1HF,1X,3HTSK)
  DO 212 I=1,NT
  212 PRINT 213,I,INDEXNO(I),TOTLAT(I),TOTLONG(I),TIMEPREM(I),IDEPEN(I),
    1 DISTOUT(I),DISTREC(I),ATTRLOC(I),RVAL(I),DELAT(I),DELONG(I),
    2 ,18FIX(I),DESIG(I),CNTRYLOC(I),FLAG(I),TASK(I)

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12/20/71

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212 CONTINUE
213 FORMAT(1X,I4,I6,F9.3,3X,F10.3,F9.2,I4,F10.2,F9.3,F10.2,
1F9.3,F11.3,4X,L1,I4,3X,AS,1X,A2,I2,2X,A2)
CALL TIMEHE(-3)
GO TO 255
214 PRINT 215,NT,JGROUP,JCORR
215 FORMAT(6HNT = ,I6,3X,6HJGROUP = ,I3,3X,8HJCORR = ,I3/
14X,7HINDEXNO.4X,6HTOTLAT,5X,7HTOTLONG,5X,4HRRVAL,7X,4HDLAT,7X,
25HDLONG,29H LFIX I DESIG CL F TSK )
DO 216 I=1,NT
PRINT 217,I,INDEXNO(I),TOTLATM(I),TOTLONG(I),RVALM(I),DELATM(I),
1DELONGM(I),ISFIX(I),IDESIGN(I),CNTRYLCM(I),FLAGM(I),TASKM(I)
216 CONTINUE
217 FORMAT(1X,I4,I6,F10.3,F12.3,F9.2,F12.3,F11.3,5X,L1,I5,2X,AS,1X,
1A2,I2,2X,A2)
CALL TIMEHE(-3)
255 CONTINUE
RETURN
END

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IDENT WRDSTRK

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

01335
00232

RAID

1

11

12

13

2

KEYS

ITP

IFTPRINT

FILES

DATA

00004

11444

11444

07640

07640

40246

00024

00001

00012

00020

00003

EXTERNAL SYMBOLS

THEND.

Q3Q10040

Q9QEVALL

Q9QDICT.

IGET

WRARRAY

ORDER

REORDER

LMREORDER

TIME

STH.

ENC.

Q8GOUT4

QNSINGL.

5.ATS WRDSTRK

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ED 0

PAGE NO.

6

C00012 ALOCGRP									
C00006 ALOCVAR									
P00432 AN00000.	00426								
P00451 AN00001.	00445								
P00467 AN00002.	00463								
P00601 AN00003.	00575								
P00617 AN00004.	00613								
P00635 AN00005.	00631								
C17027 ATTRLOC	00363	00725	01153						
C00002 BASFILE									
P01273 BEG14.	01274								
P01266 CNTRYLC1	00470	00630	00636						
C27343 CNTRYLCM	00635	01023	01074	01250					
C3737 CNTRYLOC	00467	00757	01170						
P01272 CNVRT1.	00434	00471	00603	00821	00837	01126	01127	01130	01142
	01145	01146	01147	01151	01152	01153	01154	01155	01156
	01167	01170	01171	01213	01214	01215	01227	01231	01232
	01234	01235	01236	01245	01250	01251	01252		
	00767	00770	01003	01004					
P01326 COUNT.									
P00003 CRFMT.	00437	00456	01133	01200	01220	01260			
C23257 DELAT	00405	00406	00733	01155					
C13563 DELATM	00554	00555	01015	01050	01235				
C28373 DELONG	00417	00420	00736	01156					
C16517 DELONGM	00566	00567	01016	01053	01236				
C27507 DESIG	00426	00432	00751	01166	01166				
P01270 DESIG1	00425	00433	00574	00602					
C21453 DESIGM	00575	00601	01022	01066	01246	00324	00331	00343	00355
P00001 DICT.	00234	00254	00263	00271	00314	00314	00355	00355	00365
	00376	00410	00422	00431	00436	00440	00457	00457	00473
	00475	00503	00511	00523	00534	00545	00571	00571	00587
	00616	00623	00625	00634	00641	00643	00667	00677	00702
	00710	00713	00716	00721	00724	00727	00735	00745	00750
	00756	00761	00775	01011	01020	01027	01036	01041	01044
	01052	01062	01065	01070	01073	01074	01115	01132	01137
	01174	01203	01216	01217	01224	01243	01254		
C12577 DISTCUT	00341	00341	00717	01151					
C14713 DISTREC	00353	00353	00722	01152					
X00314 ENC.	00430	00447	00465	00577	00615	00693			
P01275 ENDING.	00235	01265	01273						
C00016 EVENTAPE									
P00000 EXIT.	01276								
C30553 FLAG	00500	00762	01171						
C32277 FLAGM	00646	01024	01077	01251					
P00003 FORMAT.									
P00437 G000000.	00427								
P00456 G000001.	00446								
P00474 G000002.	00464								
P00494 G000003.	00576								
P00534 G000004.	00614								
P00642 G000005.	00632								
P01133 G000006.	01121								
P01175 G000007.	01135								
P01520 G000010.	01206								
P01255 G000011.	01222								

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S.ATS	WRRDSTRK	12/20/71	ED	0	PAGE NO.	9
C05673	TGTLONGW	00532	01014	01233	01216	01253
X00001	THEND.	00435	00472	00604		
X00012	TIMEHE	01114	01202			
C06347	TIMEPREM	00322	00711	01147		
C00010	TEMPALOC	00661				
P00657	TS00001.	00247				
P00774	TS00002.	00766				
P01010	TS00003.	01002				
P01176	TS00004.	01134				
P01256	TS00005.	01221				
X00006	WRARRAY	00666	00701	00707	00720	00731
		00734	00747	00755	01040	01046
		01051	01064	01072		
P00232	WRRDSTRK	00232				
P00250	WS00001.	00660				
P00771	WS00002.	00773				
P01005	WS00003.	01007				
P01135	WS00004.	01177				
P01222	WS00005.	01257				
	00240 SYMBOLS					